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Telomerase Patent: US 6093809-A 224 25-JUL-2000; Location/Qualifiers	Cech, T.R. and Lingner, J.	1 (bases 1 to 4015)	Unclassified.	Unknown.	Unknown.		AR104587.1 GI:12817295		Sequence 224 from patent US 6093809.	AR104587 4015 bp DNA		
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Qy 188 GGACCCGGCGCTTTCCGCGCGCCTGGTGGCCCAGTGCCTGGTGCGTGC	B 5	GTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCGGTGCGAGCTGCGGTCACCCCAGC 13
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Qy 548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	Др. Q y	1628 GAGCCCAGGGTTGGCTGTGTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687
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   Sequence 1, Application US/09424686B GENERAL INFORMATION:
APPLICANT: Hagen, Gustav
APPLICANT: Siegmund, Hans-Ulrich
APPLICANT: Weichel, Walter
APPLICANT: Wick, Maresa
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GTGGCGCTGCCCTGAGCCGGAGCGGACCCCCTTGGGCAGGGGTCCTGGGCCCACCCGG
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CURRENT APPLICATION NUMBER: US/09/424,686B
CURRENT FILING DATE: 1999-11-29
PRIOR APPLICATION NUMBER: PCT/EP98/03468
PRIOR FILING DATE: 1998-06-09
NUMBER OF SEQ ID NOS: 7
SOFTWARE: Microsoft Word
SEQ ID NO 1
LENGTH: 4042
TYPE: DNA
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TITLE OF INVENTION: Human Catalytic Telomerase Sub-Unit and its Diagnostic
TITLE OF INVENTION: Therapeutic Use
FILE REFERENCE: Bayer 10,203
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GENERAL INFORMATION:
APPLICANT: Hagen, Gustav
APPLICANT: Siegmund, Hans-Ulrich
APPLICANT: Weichel, Walter
APPLICANT: Weichel, Waresa
APPLICANT: Zubov, Dmitry
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CURRENT APPLICATION NUMBER: US/09/424,686F
CURRENT FILING DATE: 1999-11-29
PRIOR APPLICATION NUMBER: PCT/EE98/03468
PRIOR APPLICATION NUMBER: PCT/EE98/03468
PRIOR FILING DATE: 1998-06-09
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Microsoft Word
SEQ ID NO 1
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Best Local Similarity
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APPLICANT: Siegmund, Hans-Ulrich
APPLICANT: Weichel, Walter
APPLICANT: Wick, Maresa
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TYPE: DNA
ORGANISM: Homo
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GTGGCGCTGCCCTGAGCCGGAGCGGACGCCCGTTGGGCCAGGGGTCCTGGGCCCACCCGG
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45 GCGTGCGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCG	Ωy	1201 CCGGCCTGCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACC 1260	B 8
85 TCCCCCAGGACAGGC 	4g 4g	1141 TCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGC 1200	B 8
19	d de de	1081 AGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGC 1140	유 성
01 TGCTGGGCCTGGACGATATCCACAGGCCTTGGCGCACCTTCGTGCTGCTGTGCGGCCCCCTTCGTGCTGCTGCTGTGCGCGCCCCCTTCGTGCTGC	र वि	1021 CTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGC 1080	p g
41 CACTETTCAGCGTGCTCAACTACGAGCGGGGGGGGGCCCCGG	da Ao	961 GCCGCCAGCACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGC 1020	g &
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	<u> </u>	781 GTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGG 840	В

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Qy 301 TGGTGGCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGGAAGAACGTGCTGGCCTTCG 360	Qy 241 GGGACGCACGGCCCCCCCCCCCCCCCTCCTTCCGCCAGGTGTCCTGCCTG	Qy 181 AGCGCGGGGGACCCGGCGGGCGCTTCCGCGCGCGCTGGTGCCCTGGTGTGCCTTGCTGC	QY 121 AGGTGCTGCCGCTGGCCACGTTCGTGCGGCCCCCAGGCCCAGGCTGGCT	QY 61 CGATGCCGCGCTCCCCGCTGCCGAGCCGTCCCTGCTGCGCAGCCACTACCGCG 120	GTTTCAGGCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACGTTTCAGGCAGCGAGCG	Query Match 93.8%; Score 3586; DB 6; Length 4042; Best Local Similarity 94.6%; Pred. No. 0; Matches 3824; Conservative 0; Mismatches 0; Indels 218; Gaps 2;	/mol type="unassigned DNA" /mol type="unassigned DNA" /isolate="HUMAN" /db_xref="taxon:32644"	0	AUTHORS Wick, M. and Hagen, G. TITLE HUMAN CATALYTIC TELOMERASE SUB-UNIT AND ITS DIAGNOSTIC AND THERAPEUTIC USE THERAPEUTIC USE TOURNAL Datest W. 985040-1 1 20-DEC-1000.		ENT TO-LIMIN	T 7	Oy 3812 AAAAAAAAAAA 3824 Db 3841 AAAAAAAAAAAAA 3853	QY 3752 GGTGCTGTGGGAGTAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAAA	Oy 3692 CTGTACACAGGCGAGGACCCTGCACCTGGATGGGGTCCCTGTGGGTCAAATTGGGGGGA 3751	Qy 3632 GTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAAAGGTGTGCC 3691	QY 3572 AGATTCGCCATTGTTCACCCCTCGCCCTGCCCTCCTTTGCCTTCCACCCCACCATCCAG 3631
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3541 GGCGGCCACACCCAGGCCGGCACCGCTGGGAGTCTGAGGCCTGAGTGAG	3263 AGGCCGAGACCAGACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	203 7	3143 AGACGCAGCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCTGACTGCCCTGAGTCGGAAGCCCCCAGAGGCCGCAGACGCTGACTGCCCTGGAGGCCGCAGACGCACGACGACGCAGGCCGCAGGCCGCAGGACGCAGGACGCAGGACGCTGACTGCCCTGGAGGCCGCAGGCCGCAGGACGCTGACTGCCCTGAGGCCGCAAGGCCGCAGGACGCTGACTGCCCTGAAGGCCGCAAGGCCGCAGGACGCTGACTGCCCTGAAGGCCGCAAGGCCGCAAGGCCGCAGGACGCTGACTGCCCTGAAGGCCGCAAGGCCGCAAGGCCGCAAGGCCGCAGGACGCTGACTGCCTGAAGGCCGCAAGGCCGCAAGGCCGCAAGGCCGAAGGCCGAACGCTGACTGCCCTGAAGGCCGCAAGGCCGCAAGGCCGAAGGCCGAACGCTGACTGCCCTGAAGGCCGCAAGGCCGCAAGGCCGCAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGCCGAAGGAAGGCCGAAGGAAGGCCGAAGGCCGAAGGAAGGCCGAAGGAAGGCCGAAGGAAGAA	3083 TCAAGCTGAC 3301 TCAAGCTGAC	3023 GCGCCGCCGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTG	2963 CCTCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCC	2903 CATTTCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACA	2843 ACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTC	2783 TGAAGTGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCA 	2723 TCAACCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTG	2663 TGGAGGTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCT	2603 TTCAGATGO 2821 TTCAGATGO	2543 TGCGGAAG <i>I</i> 1 TGCGGAAG <i>I</i>	2483 Q 2701 Q	2423 ACGGGCTGCTCCTG	2363 2581	2525	

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728 GAGGCGCGGGGGAGTGCCAGCCGAAGTCTGCCCTTGCCCAAGAGGCCCAAGGCGTGGCGC 787	668 CTGGAACCATAGOGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	608 TCAGGCCCGGCCACCACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	548 GECTECCAGETGEGECTACEAGGTGTGEGGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGGGGG	368 GCTGCTGGACGGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA 427	308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 367	248 ACGGCCGCCCCGGCCGCCCCCTCCTTCCGCCAGGTGTCCTGCCTG	188 GAACCCGGCGCGCTTTCCGCCCCCTGGTGGCCCAGTGCCTGGTGCGTGC	128 GCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCAGGGCTGGCGGCTGGTGCAGCGCGG 187	68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTGCCTGCTGCGCAGCCACTACCGCGAGGTGCT 127	8 GCAGCGCTGCGTGCTGCGCACGTGGGAAGCCCTGGCCCGGGCCACCCCCGGGATGCC 67	y Match (98.3); Score 3933; DB 6; Length 4015; Local Similarity 99.1); Pred. No. 0; hes 3979; Conservative 0; Mismatches 0; Indels 36; Gaps 1;	Œ	Cecn,T.R. Telomeras Patent: U	_	AR104587 N Sequence 224 from patent US 6093809. ************************************
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GGAAC	AGCTATGO AGCTATGO		TGTAG	CCGAG	TGATT	CATGG	GTCCAGTGCCAGGGGAT 	TICCI	GCCGT	CTCCA	CCAGAAGGCCGCC CCAGAAGGCCGCC	ATCGC), - - - - , - - - - - - - - - - - - -	gcagagaaaagaggc gcagagaaaagaggg	GGCIG	ATCGG
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Human tel
Telomeras
Telomeras
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Human; telomerase reverse transcriptase; hTRT; TRT; diagnosis; prognosis; Human telomerase reverse transcriptase Delta182 variant encoding cDNA. 13-AUG-1998 (first entry)

AAV22382;

AAV22382 standard; cDNA; 3855 BP

Aax18268 Altered Aax18351 Telomera		3203 7688 7615	71.8 71.7 68.5 68.4	2747 2741.4 2741.4 2620.4 2617	1444 1584 1084
Abz69628 Abx18275 Abx18271	2007	3543 3500 3167	74.6 73.8 72.8	2851.8 2822.8 2785	38 29 29 10
Aah44366 Aax18266 Aad46793	4400	3396 3396 8742	76.9 76.9	2940 2936.8 2932	C 35
Abx09963 Ab191685 Aah48235	0044		77.0 77.0 76.9	2943 2943 2940 2940	
Aad46790 Abv78144 Abz35720	6 AAD4 6 ABV7 6 ABZ3	13766 3399 3399	77.0 77.0 77.0	2944 2943 2943	28 30
Aax18254 Aav22379 Aav27876 Abz76217		3955 3955 3798 3453	89.7 87.0 77.0	3429 3429 3328.6 2944	255 27

ALIGNMENTS

RESULT 1 AAV22382

09-MAY-1997; 14-AUG-1997; 14-AUG-1997; Pure and recombinant human WPI; 1998-171633/16. P-PSDB; AAW46997. Andrews WH; Cech TR, GB2317891-A (GERO-) GERON CORP.
(UYTE-) UNIV TECHNOLOGY CORP. 14-AUG-1997; 25-APR-1997; 01-OCT-1996; 01-OCT-1997; 08-APR-1998 Synthetic. cell proliferation; cancer; ageing; ribonucleoprotein; ss. 06-MAY-1997; 18-APR-1997; Homo sapiens Lingner J, 97US-00911312. 97US-00912951. 97US-00846017. 97US-00851843. 97US-00915503 96US-00724643. 97GB-00020890 97US-00854050. 97US-00844419 /*tag= a /product= "telomerase reverse transcriptase variant" Location/Qualifiers /*tag= Nakamura T, Telomerase Reverse Transcriptase and Chapman KB, Morin GB, Harley CB;

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content in the present invention. The present invention also describes the following methods: (A) determining whether a test compound is a modulator of hTRT, by detecting the change in hTRT recombinant protein or polynucleotide, on administration of the compound; (B) preparation of recombinant telomerase by contacting a protein preparation of hTRT with a telomerase RNA component; (C) detection of the hTRT RNA or protein in a sample by binding a relevant probe to the sample and detecting the complex formed or in the case of RNA detection, amplifying the product and correlating the presence of complex or amplification product with presence of hTRT in the sample; and (D) increasing the product with presence of hTRT in the sample; and (D) increasing the proliferation of a vertebrate cell by increasing hTRT expression; and (E) the use of an agent that causes an increase in cell vertebrate cell preliferation to create a medicament that inhibits ageing. A protein preparation of hTRT and the polynucleotide encoding hTRT can be used in the manufacture of medicaments for inhibiting the effect of ageing or that are associated with high telomerase activity. A protein preparation of hTRT can also be used in the new methods
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                                                       GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687
                                                                                                        GAGCCCAGGGGTTGGCTGTTCCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC
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Matches 3824;
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26-MAR-1998;
14-APR-1998;
                                                                                                                                                                     Sequence 4042 BP; 684 A; 1364 C; 1277 G; 717 T; 0 U; 0 Other;
                                                                                                                                                                                                             death, defects and/or other pathological processes involving telomerase, particularly cancer and ageing (also suitable for this are agents that stimulate, inhibit or mimic the activity of the subunit. Antisense nucleic acids inhibit telomerase action (by binding to specific mRNA), particularly in neoplastic cells and may be expressed in vivo. Antibodies and fragments of the protein, used as probes or primers, are used to diagnose telomerase-related conditions (especially neoplasta) by (i) detecting abnormal levels of the subunit protein in body fluids or tissues or (ii) by measuring the amount of the encoding nucleic acid. Expression of the mucleic acid encoding the subunit mRNA is confined to tumour cells, in contrast to the ubiquitous expression of the telomerase
                                                                                                                                                                                                                                                                                                                                                                                      The encoded protein can be used in screening assays to identify modulators of telomerase and to treat or inhibit cellular disorders,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; catalytic telomerase subunit; therapy; diagnosis; hTC; assay; modulator; treatment; inhibit; cellular disorder; death; defect; cancer; ageing; antisense; neoplastic cell; telomerase-related condition; tumour cell; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence encodes a novel human catalytic telomerase sub-unit (hTC).
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           08-APR-1998
                                    GB2317891-A
                                                                                                                                                                                                            Human telomerase reverse transcriptase encoding cDNA refined sequence.
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/note= "refined sequence"
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(hrr), which is a ribonucleoprotein. The present invention also describes the following methods: (A) determining whether a test compound is a modulator of hTRT, by detecting the change in hTRT recombinant protein or polynucleotide, on administration of the compound; (B) protein or polynucleotide, on administration of the compound; (C) preparation of recombinant telemerase by contacting a protein preparation of hTRT with a telemerase RNA component; (C) detection of the hTRT RNA or protein in a sample by binding a relevant probe to the sample and cetecting the complex formed or in the case of RNA detection, amplifying the product and correlating the presence of complex or amplification the use of an agent that causes an increasing hTRT expression; and (E) proliferation to create a medicament that inhibits ageing. A protein preparation of hTRT and the polynucleotide encoding hTRT can be used in the manufacture of medicaments for inhibiting the effect of ageing or cancer. Inhibitors of telomerase activity can be used to treat conditions that are associated with high telomerase activity. A protein preparation of hTRT can also be used in the new methods
 Query Match
Best Local &
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18-APR-1997;
25-APR-1997;
06-MAY-1997;
                                                         Sequence 4037 BP; 682 A; 1362 C; 1275 G; 714 T; 0 U; 4 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pure and recombinant human Telomerase Reverse Transcriptase and its variants - are useful in the diagnosis, prognosis and treatment of proliferation conditions especially cancer and ageing.
                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence encodes human telomerase reverse transcriptase (hTRT), which is a ribonucleoprotein. The present invention also
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Similarity

Qy 1388 CACAGACCCC	Qy 1328 AGCCGGTGTC	Qy 1268 GTGCCCCTAC	Qy 1208 GCCCAGCGC		Qy 1148 GACCATCTTT	1088 1081 1148 1141	1028 1021 1088 1081 1148	968 961 1028 1021 1081 1081 1148	908 901 968 961 1028 1021 1088 1081 1148	848 841 908 901 901 961 1028 1028 1081 1081 1148	788 781 848 841 908 901 1028 1021 1081 1148	728 721 788 788 781 848 841 909 901 901 1028 1028 1081 1148	668 661 728 721 781 781 781 848 841 901 901 908 901 1028 1028 1081 1141	608 661 662 728 728 721 781 781 848 849 901 908 901 1028 1028 1081	548 541 608 601 668 6661 721 728 788 848 901 901 908 901 1028 1088 1148	488 481 548 548 608 6601 728 728 781 781 908 8441 901 1021 1088 11081	428 421 488 481 548 548 601 608 661 728 728 729 729 729 729 729 729 729 729 729 729	369 428 428 4481 4481 548 608 601 728 728 728 788 908 901 1028 11081 1148
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                                                                                                                                                                                                                                                                               01-AUG-1997;
14-AUG-1997;
30-OCT-1997;
New isolated human telomerase catalytic sub-unit gene - used to develop products for increasing or reducing the life span of cells such as cancer
                                                                                WPI; 1998-495367/42.
P-PSDB; AAW71376.
                                                                                                                                                                 Counter CM,
                                                                                                                                                                                                                                                                                                                                                                20-FEB-1997;
20-MAY-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       20-FEB-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Catalytic subunit; human; telomerase; telomere maintenance; diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human telomerase gene referred to as hEST2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-DEC-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAV60320;
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                                                                                                                                                                 Meyerson M,
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97US-0047151P.
97US-0054549P.
97US-0055762P.
97US-0064322P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
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                                                                                                                                                                 Weinberg RA;
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Query Match
Best Local Simi
Matches 3803;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 4023 BP; 668 A; 1363 C; 1277 G; 715 T; 0 U; 0 Other;
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                                                                         GAGGAGGCGCGGGGCAGTGCCAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGG
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961 GGGGAGGTGCTGTGGGAGTAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAAA	AGTCTCACCTTCAA 2726	2667 GGTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACC	, VQ VQ
3687 GTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGG 3746	CCTGGA 2666	607 GATGCCGGCCC	Qy dd
3627 TCCAGGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAAAGGT 3686 	A 260	547	לא קם
3567 TCCCCAGATTCGCCATTGTTCACCCCTCGCCCTGCCCTTTGCCTTTGCCTCCACCCCACCA 3626	N N	487	ρ <i>δ</i>
3507 CCAGGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCA 3566	N N		λ δ
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3387 CTGCATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGG 3446	2 Z Z	308 521	Å Å
352/ GCCACACCCAGGCCGCACCGCTGGGAGTCTGAGGCCTGAGTGAG	GCCGTGCGCATCAG 2520	2308	40 40
CORRECTOR AND CONTROL OF CONTROL	2307	2308	9d 8d
421	2307	2308	Db
207 GGGACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCCCCACAGCCAGC	AAGGCCTTCAAGA- 2307 	2249 GCGTCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGA-	Qy Qy
300 GETGAGTGGAGGCGAGGCGAGGGGGGGGGGGGGGGGGGGG	T 2248	2189 CCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGCGAGACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTGCGCAGAACACGTACTACTGCGCAGAACACGTACTACTGCGCAGAACACGTACTACAACCCCAGAACACGTACTACTGCGCAGAACACGTACTACAACCCCAGAACACGTACTACTGCGCAGAACACGTACTACTGCGCAGAACACGCAGAACACGTACTACAACCCCAGAACACGTACTACACCACACACA	Qy dd
02/ CECCEECCTCTECCTCCAAGECETEAASTACTACCAACAASCATTCTECTCAA 241 CECCEECCTCTECCTCCAAGECCETECAAGCATTCCTCCTCAA 241 CECCEECCTCTECCTCCCAAGECCETECAAGCATTCCTCCTCAA 241 CECCEECCTCTECCTCCCAAGECCETECAAGCATTCCTCCTCAA	C 2188	2165 CCCGCCGCCTGAGCTGTACATCC	da VQ
CCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGATGTCGCTGGGGGCCCAAGGGGCCCAAGGGCCCCCCCTTGCTACTCCATCCTGAAAGCCAAGAACGCAGGATGTCGCTGGGGGGCCAAGGGCCCCCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGCAAGGATGTCGCTGGGGGGCCAAGGGCCCCCCCC	CAGGA 2164 CAGGA 2160	2105 GGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCC	da VQ
TCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGGCGTTCATCTGGACACGGCCTCATCATCAGCAAGTTTGGACACGGCCTCATCTTGACACGGCTCATCTGGACACGGCCTCATCAGCAACATTTTTCCTGCGCGTCATCTCTGACACAGGCCTCTGACACACGCCTC	2104	2045 GTTCAGCGTGCTCAACTACGAGCGGGCGCGCGCCCCGGGCCTCCTGGGCGCCTCTGTGCT	da VQ
	N N	985 AGCCAG	g 99
2787 GTGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACAT 2846	GACTACGTCGTGGG 1984	1925 CCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGG	g 8
	1924	1865 GTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	da Qy

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                                                                                                                                                                                                                                                 Matches 3798;
                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                           The present sequence is that of hTERT cDNA in plasmid pGRN121. hTERT is the catalytic subunit of human telomerase. Claimed immortalised cell lines for use in vaccine production are adapted to express hTERT. Suitable cell lines comprise human diploid fibroblasts, e.g. MRC-5 or WI38 cells, transfected with hTERT cDNA or infected by a retrovirus carrying hTERT cDNA, and are capable of supporting antigen production. A method for preparing such cell lines using recombinant techniques is provided. The cell lines are also used as a diagnostic test for the presence of a virus, such as human cytomegalovirus, and to determine the efficacy of antiviral agents by testing the capability of a modified virus containing a reporter gene to infect the cells. The cell lines have the ability, which can be impaired in cell lines immortalised by other methods, of being able to support viral replication. The cells remain morphologically suitable for viral/vaccine cultivation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel hTERT-immortalized cell line (human telomerase reverse transcriptase) useful for human vaccine production and preparation of antigen, such as a virus or virus-derived agent.
                                                                                                                                                                                                                                                                                                              Sequence 4070 BP; 670 A; 1383 C; 1296 G; 721 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 1; Fig 1; 64pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human telomerase catalytic subunit hTERT cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-JUN-2002 (first entry)
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                                                                      ACGCAGCGCTGCGTCCTGCCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCGCGATG
                                                                                                                                                                                                        AGGCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATG 65
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                                                                                                                                                                                                                                                              93.1%; Score 3559.4; DB 6; Length 4070; 94.5%; Pred. No. 0;
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                                                                                                                       GAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGC
                                                                                                                                                   GAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGC
                                                                                                                                                                                                                           CGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTG
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                                                                                                                                                                                                                                                            CCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTG
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     GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGC
                                                                                             TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC
                                                                                                                                                                                GAGGCGCGGGGGCAGGCCGAAGTCTGCCGTTGCCCAAGAGGGCCCAGGCGTGGCGC
                                                                                                                                                                                                                                           CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT
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                                              TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC
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1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987	1868 GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCGCCCTGCTGATGCTCCAGACTCCG 1927	1808 CAAGTIGCAAAGCATIGGAAICAGACAGCACTIGAAGAGGGTGCAGCTGCGGGGAGCTGTC 1867 	1748 TGTCACGGAGACCACGTTTCAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	1688 CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT	1628 GAGCCCAGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGGCTGCGCAG 1627	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567	1448 CGGCTTCGTGCGGGCCTGCCCCGGCTGGTGCCCCCAGGCCTCTGGGGCTCCAGGCA 1507	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1447	1328 AGCCGGTGTCTCTGCCCGGGAGAAGCCCCAGGGCTTCTGTGGCGGCCCCCCAAGAAGAAGA 1387	68 GTGCCCCTACGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC	1208 GCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCCCCT 1207	1088 GCCCTCCTTCCTAGCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGGGACAAGGAGCAGCTGCG 1087	968 GCACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCCACCCACC	 41 GCGTGGAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This is the nucleotide sequence of cDNA encoding human telomerase reverse transcriptase (hTMT, see AAY32090). Human telomerase is a target for diagnosing and treating diseases relating to cell proliferation and senescence, such as cancer, or for increasing the proliferative capacity of a cell. A claimed method for increasing the proliferative capacity of a vertebrate cell, especially a human or other mammalian cell, involves introducing into the cell a recombinant hTMT polymucleotide encoding an hTMT variant in which residues 192-333, 200-323, 192-271, 200-271, 222-240, 415-450, 192-323 and 415-450, or 192-271 and 415-450 are deleted. A claimed method for reducing telomerase activity in a cell involves introducing a recombinant polymucleotide encoding an hTMT variant having a deletion of amino acids 192-450, 560-555, 637-660, 638-660, 748-764 or 192-51071. The polymucleotides are obtained by mutagenesis of the hTMT or 195-1071. The polymucleotides are obtained by mutagenesis of the hTMT
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The present sequence encodes a human telomerase reverse transcriptase
                                                                                          Eliciting an in vivo immune response for prevention
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; telomerase reverse transcriptase; TRT; T lymphocyte activation; dendritic cell; telomerase activity; cancer cell; proliferating cell; immunological destruction; telomerase; cancer; proliferation disease; ss.
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                                     Disclosure; Fig 2; 26pp; English.
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Best Local Similarity 94.6
Matches 3797; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
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2730 CGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG 2789	2670 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCG 2729	2610 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCTGGAGGT 2669	2550 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 2609	2490 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAA 2549	2430 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGAAAAC 2489	2370 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGACGGGCT 2429	2310 CAAGTCCTACGTCCAGGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTG 2369	2308GG 2309	2308 2307 2401 GACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAG 2460	341 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 24	2252 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGA 2307	92 0	2168 GCCGCCTGAGCTGTA	2108 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC 2167	2048 CAGCOTGCTCAACTACGAGCGGGCGCGGCCCCGGGCCTCTGGGCGCCTCTGTGCTGGG 2107	1988 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 2047 	1928 CTTCATCCCCAAGCCTGACGGCCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987	1861 GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC
RESULT 9 AAH45901 ID AAH45901 standard; DNA; 4015 BP.	Qy 3750 GAGGTGCTGTGGGAGTAAATACTGAGTTTTCAGTTTTGAAAAAAA 3804	3690 CCCTGTRACACAGGCGAGGACCCTGCACCTGGAGGTCCCTGTGGGTCAAATTK 3901 CCCTGTRACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCTGTGGGTCAAATTK	3630 AggTGGAGACCCTGAGAAGACCCTGGGAACTTTGGAATGACCAAAGGTGTG 368	3570 CCAGATTCGCCATTCATCACCCTCGCCCTGCCTTTGCCTTCCACCCCCACCATCC	3510 GGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACTAGGGAATAGTCCATCC		3390 CATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGCCTGAGCGAGTGTCCAGCCAAGGGCT 3	3541	3481 GAGCAGCAGCAGCAGCAGCAGCAGGAGGAGGAGGAGGAGG	Db 3421 ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCAGGCCGA 3480 Qy 3270 GAGCAGACACCAGGAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	3210 ACTGCCCTCAGACCTTCAAGACCATGATGGCCACCCCACCCA	OV 3050 GACTICGAAACCTTACCTCACCTACGTCCTGGGGTCACCTCAGGACGCAGACGCA 3149	3030 GGGCCCTCTGCCCTCCGAGGCCGTGCAGTGCCTGCCAAGCATTCCTGCTCAAGCT	2970 CTGCTACTCCATACCCAAGACACAGAATGTCGCTGGGGGCCCAAGGGCCCGC 3	3121	2850 GARGATICCTCCTGCTGCAGGGGTTACAGGTTTCAAGGCATGTGTGCTGCAGCTCCCATTTCA 2	2/90 TCACHGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 3001 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA	

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complement(2311. .2325)
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     /number= 12
                                                                                                       note= "primer SYC1078 (AAH45903) binding site"
638. .2709
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                                                                                                                                                                                                                                       /bound_moiety= "hybridisation probe CS1"
/note= "AAH45907"
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/note= "AAH45906"
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/note= "AAH45908"
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence is that of the hTERT gene encoding the catalytic subunit of the human telomerase, comprising 16 exons, which is useful in a method for quantitating hTERT mRNA. The method is useful for detecting the presence of beta-region (a 182 nucleotide region consisting of exons 7 and 8) of the hTERT-mRNA in a human sample for diagnosis and prognosis of cancer. The method provides an accurate measure of telomerase accivity by selectively measuring mRNA that encodes an active hTERT protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Quantitating expression of mRNA encoding hTERT, the catalytic subunit of telomerase, as an indicator of cancer, by amplifying RNA using primers complementary to hTERT gene sequence and quantitating amplified products.
                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; Page 5-7; 29pp; English.
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368 GCTGCTGGACGGGGCCCCCGGAGGCCTTCACCACCACCAGCGTGCGCAGCTA
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                                        CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC
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                                                               gccgcraeccacerrcerecegceccraeeecccaaeecraececraerecaecaecae
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2401 GACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCTGAATGAGGCCAG 2460 2308	281 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCA 308	61 GCCGCCTGAGCTGTACTTTGTCAAAGGTGGATGTGACGGGCGCGTACGACACCACCCAC	2041 CAGCGTGCTCAACTACGACCGCCCCGGCCCCCGGCCTCCTGCGCCCTCTGTGCTGGG 2100 2108 CCTGGACGATATCCACAGGGCCTGGGGGCACCCTTCGTGCTGCGTGCG	1988 CAGAACGTTCCGCAGAGAAAAGAGGCCGAGGCTCTCACCTCGAGGGTGAAGGCACTGTT 2047	8 CTTCAT	1801 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGTGCAGCTGCCGGAGCTGCC 1860 1868 GGAAGCAGAGCTCAGGCAGCATCGGGAAGCCAGGCCCTGCCTG	1748 TGTCACGGAGACCACGTTTCAAAAGAACAGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	CAAGIT	1628 GAGCCCAGGGGTTGGCCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGAACTGCGCTTGGCTGCGCAG 1627	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567

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                                                                                                     CATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCGAGTGTCCAGCCAAGGGCT
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                        GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTTGAAAAAAA 3804
GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAA
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Human telomerase reverse transcriptase (TERT) cDNA

Carbohydrate antigen; alpha(1,3)galactosyltransferase; alpha1,3GT; Ttransgenic; alpha(1,2)fucosyltransferase; alpha1,2FT; human; enzyme; telomerase reverse transcriptase; gene; ss. TERT;

Homo sapiens.

WO200274948-A2 56. .3454 Location/Qualifiers /product= "Human telomerase reverse transcriptase" /*tag=

26-SEP-2002.

21-MAR-2002; 2002WO-CA000378.

21-MAR-2001; 2001US-0277811P

(GERO-) GERON CORP.

Denning C, Clark AJ, Schiff ş

P-PSDB; AAE29226. 2002-759895/82.

Mammalian cells, useful for producing animal tissues with carbohydrate antigens that are compatible for transplantation into human patients. for transplantation into human patients.

Disclosure; Page 33-34; 71pp; English.

The invention relates to animal tissues with carbohydrate antigens that are compatible for transplantation into human patients. The mammalian cell is inactivated homozygously for expression of alpha(1,3)galactosyltransferase (alpha1,3gr) gene and comprises a transgene for alpha(1,2)-fucosyltransferase (alpha1,2FT). It is useful for producing animal tissue with carbohydrate antigens that are compatible for transplantation into human patients. The present sequence is human telomerase reverse transcriptase (TERT) cDNA used in the invention

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68	908 CACCTCT	848 GCGTGGF 841 GCGTGGF	788 TGCCCCTGAGG	728 GAGGCGC 721 GAGGCGC	668 CTGGAAC	608 TCAGGCC	548 GGCTCCC 541 GGCTCCC	488 CCGCGT0	428 CCTGCC	368 GCTGCTC	308 CCGAGIO	248 ACGGCC 241 ACGGCC	188 GGACCO	128 GCCGCT 121 GCCGCT	68 GCGCGC 61 GCGCGC	8 GCAGCG 1 GCAGCG	Query Match 93.1%; Best Local Similarity 94.6%; Matches 3797; Conservative	equence 4015 B
GCGGGCCCCCA7	TTGGAGGGTGCG(CCGAGTGACCGTO	GAGCCGGAGCGGI GAGCCGGAGCGGI	GGGGGCAGTGCC GGGGGCAGTGCC	CATAGCGTCAGG		AGCTGCGCCTAO	GGCGACGACGTG	AACACGGTGACC	GACGGGGCCCGC	SCTGCAGAGGCTG	 	GCGGCTTTCCGC	GCCACGTTCGTG	rccccccrgccgA ccccgcrgccgA	crecercorecre	93.1%; ity 94.6%; servative	BP; 663 A; 1363
GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC	CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	CGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGC 	TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGTCCTGGGCCCACCCGGGCAGGAC	GAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCG	CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG	CAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGG 	GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC	CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT	CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGGGGG	GCTGCTGGACGGGGGCCCGGGGGGGCCCCCGAGGCCTTCACCACCACCAGCGTGCGCAGCTA	CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGAAGAAACGTGCTGGCCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGG	CGGCCGCCCCGCCCCCCCTCCTTCCGCCAGGTGTCCTGCAAGGAGCTGGTGGC	GGACCCGGCGGCTTTCCGCGCGCTGGTGGTCGCAGTGCCTGGTGTGCGTGC	GCCGCTGGCCACGTTCGTGCGGCGCCCTGGGGGCCAGGGCTGGCGGCTGGTGCAGCGCGG	CGCGCTCCCCCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT	GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGGCACCCCCGCGATGC	Score 3559; D Pred. No. 0; 0; Mismatches	3 C; 1275 G;
CACCACGTCCCTG	GCACTCCACCC	rgtcacctgccag	AGGGGTCCTGGGC	CGTTGCCCAAGAG 	CCTGGGCCTGCC	CCCGAAGGCGTCT	CGCCGCTGTACCA 	TGGCACGCTGCGC	egagcegggceto 	AGGCCTTCACCA(AGGCCTTCACCA(CGAAGAACGTGCT CGAAGAACGTGCT	AGGTGTCCTGCCT	AGTGCCTGGTGTC	CCCAGGGCTGGCC	TGCTGCGCAGCC	CCTGGCCCGG	DB 6; Length .	714 T; 0 U;
GGACACGCCTTGT	ATCCGTGGGCCGC	ACCCGCCGAAGA/	CCACCCGGGCAGGAC	GCCCAGGCGTGGCG	AGCCCCGGTGCC	GGGATGCGAACG 	ACTCGGCGCTGC	GCTCTTTGTGCT	eggecrecrecre	CAGCGTGCGCAG	RESCUTTOSSCTT	rgaaggagctggt rgaaggagctggt	egrecctegga 	GETEGTGCAGCG	ACTACCGCGAGGTG ACTACCGCGAGGTG	CCACCCCCGCGAT	th 4015; els 218; Gaps	0 Other;
	CCA 967	4GC 907 	GAC 847 GAC 840	0-0	CGAG 727 CGAG 720	3GC 667 	CAC 607	GGT 547 GGT 540	GCG 487 GCG 480	CTA 427 CTA 420	CGC 367	GGC 307 	CGC 247	;cgcgg 187 cgcgg 180	GCT 127	GCC 67	рв 2;	
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GCTCAACTACGAC GCTCAACTACGAC	GTTCCGCAGA(GTTCCGCAGA(CCCCAAGCCT	AGAGGTCAG	GCAAAGCAS GCAAAGCAI	GGAGACCA GGAGACCA	CCTGCACT	AGGGGTTG	GCTGCAG	ACGCCG ACGCCG	Cereco	20000 	Herci Herci Herci	CTACG	AGCGCT	CTTTC	CTTCC	TACGC	усасааас
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	BAAAAGAGGCCGAGCGTCTCACCTCG 	GACGGGTGCGGCCGATTGTGAACATC	3CAGCATCGGGAAGCCAGGCCCCTC 	rtggaatcagacagcacttgaagaggto 	CGTTTCAAAAGAACAGGCTCTTTTTCTA(GGCTGATGAGTGTGTACGTCGAGCTV 	GCTGTGTTCCGGCCGCAGAGCACCGTCTC 	GAGCTGACGTGGAAĞATGAGCGTGCGGGA 	CTTCCTCAGGAACACCAAGAAGTTCATCTCI 	3GGCCTGCCTGCGCCGGCTGGTGCCCCCAGG 	GTCGCCTGGTGCAGCTGCTCCGCCAGCACAG 	GTGCCCGGGAGAAGCCCCAGGGCTCTGTGGC 	GGGTGCTCCTCAAGACGCACTGCCCGCTGCG 	ACTGGCAAATGCGGCCCCTGTTTCTGGAGCT ACTGGCAAATGCGGCCCCTGTTTCTGGAGCT	TGGGTTCCAGGCCCTGGATGCCAGGGACTCC 	TACTCAGCTCTCTGAGGCCCAGCCTGACTGG 	CGAGACCAAGCACTTCCTCTACTCCTCAGG	CCCCCATCCACATCGCGGCCACCACGTCC
CAGCGTGCTCAACTACGAGCGGGCGGCGGCGGCCTCCTGGGCGCCTCTGTGCTGGGCGGC	CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT	CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC	GRABCAGAGETCAGGCAGCATCGGGAAGCCAGGCCCGCCCTGCTGACGTCCAGACTCCG	CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC	TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 	CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT	GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC	GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGACTGCGCTTGGCTGCGCAG	CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA	CGGCTTCGTGCGGGCCTGCCCTGCGCCGGCTGGTGCCCCCAGGCCTCTGGGGCTCCAGGCAGCA	CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA	AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGAGGA	GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTCACCCCAGC	GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA	GACCATCTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT	GCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA	CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCAGCTGCG	GCACCACGGGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC

2969 3180	2910 TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCT	
2909 3120	O CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCA	
2849 3060	790 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGTGTGCACCCAACATCTA	
2789 3000	2730 CGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG	
2729 2940	670 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCGATCAGAGCCAGTCTCACCTTCAACCG	
2669 2880	2610 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCTGGAGGT	
2609 2820	2550 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT	
2549 2760	2490 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAA	
2489 2700	2430 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCCACCCGAAAAC	
2429 2640	2370 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT	
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52	461 CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTG	
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GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTTGAAAAAAA 4015
                                                                                       CCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGGTCAAATTGGGGG
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                                                                                                                                   AGGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAAAGGTGTG
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                                                      Human; telomerase; enzyme; cancer cell discrimination; gene; reverse transcriptase; ds.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Discrimination of a cancer cell in a sample tissue, comprises determining the expression level of a reverse transcriptase component of telomerase using a hybridization assay.
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                                                                                             The present sequence is that of human telomerase reverse transcriptase (TERT) cDNA. The invention relates to the discovery that double-stranded interfering RNAs, such as short interfering RNAs (siRNA), which target telomerase RNA or TERT mRNA are capable of inhibiting telomerase activity. Inhibition of telomerase in cancer cells leads to telomere shortening, end-to-end chromosomal fusion, and apoptosis. Interference of telomerase activity can also be used for treatment of infertility, for contraception or sterilisation, for immunosuppression, for treatment of yeast, parasite and fungal infections, and in antiinflammatory therapies. As telomerase is active in a limited number of cell types, e.g. tumour cells, germline cells, certain stem cells of the haematopoletic system, T and B cells, sun-damaged skin, and proliferative cervix, most normal cells are not affected by telomerase RNA interference therapy
                                                 Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel double-stranded short interfering RNA having sense and antisense nucleic acids which are complementary to each other and to target nucle acid e.g., telomerase RNA or mRNA encoding telomerase reverse
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                                                                                                                                                                                                                                                                                                                                                                                                                 The present sequence is that of human telomerase reverse transcriptase (TERT) cDNA. The invention relates to the discovery that double-stranded interfering RNAs, such as short interfering RNAs (siRNA), which target telomerase RNA or TERT mRNA are capable of inhibiting telomerase activity. Inhibition of telomerase in cancer cells leads to telomerase shortening, end-to-end chromosomal fusion, and apoptosis. Interference of telomerase activity can also be used for treatment of infertility, for contraception or sterilisation, for immunosuppression, for treatment of yeast, parasite and fungal infections, and in antiinflammatory therapies. As telomerase is active in a limited number of cell types, e.g. tumour cells, germline cells, certain stem cells of the haematopoietic system, T and B cells, sun-damaged skin, and proliferative certain, most normal
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Fig 3; 52pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel nucleic acid encoding or comprising interfering RNAs which target telomerase RNA, useful for inhibiting telomerase activity for treating cancer, infertility and disorders of the immune system.
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22-MAY-2002; 2002US-0383195P.
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2370 CAGCCTGTGCTACGGCGACAAGCAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT 2429	Υδ	1	δ
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μ α	d Q	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1447	유왕
1 GACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAG) B 4	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGA 1387	4g 4g
1 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA	5 B 6	1268 GTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCGGCTGCGAGCTGCGGTCACCCCAGC 1327	B 8
2 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGA	S D DY	1208 GCCCAGGGCTACTGGCAAATGGGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGGGCA 1267 	gg VQ
	4g 4g	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCGGCCT 1207	8 8
6 6 8	dg Vo	1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	g 99
2108 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC 2167	da YQ	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	p Q
48 41	Qy dd	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	p Q
8 48	dg VQ	908 CACCICTTTGGAGGGIGCGCTCTCTGGCACGCCACTCCCACCCCATCCGATCCG	B 8
21	da da	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	, B 8
68 GGAAGCAGAGTCAGGCAGCATCGGGAAGCCAGGCCCCCCCTGCTGACGCTCCAGACTCCG	y dd y	788 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	B Q
01	qq QQ	728 GAGGCGGGGGGCAGTGCCGAGCCGAAGTCTGCCCTTGCCCCAAGAGGCCCAGGCCTGGCGC 787	B 8
4 1 1	da Ao	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	p Qy
88	ob Oy	608 TCAGGCCCGGCCACCACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	B 8
21 28	dd Yo	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	\$ &
ტ დ ი	D Q	488 CCGCGTGGGGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	D 29
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ABZ22474 standard;
 25-MAR-2003
(first entry)
                                            CDNA;
                                              4015
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Human; telomerase reverse transcriptase; enzyme; hTERT; chromosome vulnerary; antiulcer; epithelial cell migration promoter; wound; epithelisation; skin wound; lesion; burn; surgical incision; ulcer; epithelial cell; keratinocyte; epidermal; mucosal; gene; ss. Human telomerase reverse transcriptase encoding cDNA SEQ ID NO:1.

Homo sapiens.

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WO200291999-A2.
                                      /product= "human telomerase reverse transcriptase"
                                                            /*tag=
                                                                                                  Location/Qualifiers
                                                                              . 3454
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09-MAY-2002; 2002WO-US014867.

09-MAY-2001; 2001US-0289903P

(GERO-) GERON CORP

Jiang X, Chiu C, Harley CB;

P-PSDB; ABP56676 2003-120591/11.

Composition for treating wounds and enhancing epithelization of a skin surface, comprises vector encoding telomerase reverse transcriptase or telomerized epithelial cells on a microparticle or a matrix.

Disclosure; Page 31-32; 68pp; English.

RESULT 14
ABZ22474
ID ABZ22
XX ABZ22
XX ABZ22
XX ABZ22
XX Epithman
XX Human
XX epith
XX epith The present invention describes a pharmaceutical composition (I) comprising a vector encoding telomerase reverse transcriptase (TERT) in an excipient or device, or comprises telomerised epithelial cells on a microparticle or a matrix suitable for topical administration or administration to a wound site. (I) has vulnerary and antiulcer activities and can be used to promote epithelial cell migration. (I) is useful for treating a wound and enhancing epithelisation of a skin surface. The wound is especially skin wound including acute lesion such

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3901 CCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGGGGG 39 3750 GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAA 3804	<i>δ</i> Β	
AGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAAAGGTGTGGAGAAAAGGTGTGGAACCCAAAAGGTGTGGAACCCAAAAGGTGTGGAACCCTGGGAAGCTCTGGGGAATTTTGGAGTGAAAAAAAGGTGTGGAAAAAAAA	Q	550 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCTGGGTGGCACGCTTTTGTTCAGAT
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o GAGTETCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCCA		370 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT
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3270 GAGCAGACACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	Qy da	08 01 GACCA
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ACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCA		2192 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCATCAAACCCCAGAACACGTACTGCGTGCG
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2970 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGGGCCGC 3029 3181 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGGCGCCGC 3240	ΩУ	2108 CCTGGACGATATCCACAGGGCCTGGCGGACCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC 2167
TCAGCAAGTTTGGAAGAACCCCACATTTTCCTGCGCCTCATCTGACACGGCCTCCCT		2048 CAGCGTGCTCAACTACGAGCGGGCGGGCGGCCTCCTGGGGGGCCTCTGTGCTGGG 2107
850 CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTCA		CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT
2790 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 2849 3001 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 3060	Q 40	1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987
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                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to the generation of primary preadipocyte cell strains that expresse telomerase reverse transcriptase (TERT- the catalytic subunit of telomerase), and maintain and/or enhance replicative potential and maintain adipogenic capacity of the cell. This sequence represents the gene encoding the TERT protein. The cell strain can be used in research to study all aspect of adipogenesis, especially in relation to researching treatments for e.g. obesity. The cell can also be used to identify adipogenesis modulators for use as therapeutic agents such as hormones, growth factors, cytokines, enzymes, cholesterol binding proteins, cholesterol removing proteins or their combinations. Alternatively, the therapeutic agent may be an adipocytokine, preferably adiponectin, or insulin
                                                                                                                                                                                                                                                                                                                                               Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New primary preadipocyte strain expressing telomerase reverse transcriptase, useful in research applications, screening assays, clinical applications, and in the administration of therapeutic particularly for obesity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-OCT-2001; 2001US-0327650P. 06-OCT-2001; 2001US-0327651P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 11-13; 53pp; English..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gene; ds; human; telomerase reverse transcriptase; adipogenic capacity; primary preadipocyte cell; adipogenesis; obesity; adipocytokine; anorectic; adiponectin; insulin.
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AGGTGGAGACCCCTGAGAAGGACCCTGGGAAGCTCTGGGAATTTTGGAGTGACCAAAGGTGTG 3689	3630	Ş
CCAGATTCGCCATTGTTCACCCCTCGCCCTGCCCTTCGCCTTTGCCTTCCACCCCCCCC	3781	Ď,
CCAGATICGCCATTGITCACCCCTCGCCCTGCCCTTTGCCTTTCCACCCCCACCATCC 3629	3570	Ş
GGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATCC 3780	3721	B
GGGCCAGCTTTTTCCTCACCAGGAGCCCCGGCTTCCACTCCCCCACATAGGAATAGTCCATCC 3569	3510	5
GAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCCCA 3720	3661	뭥
GAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCCA 3509	3450	Ş
CATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGGGCT 3660	3601	В
CATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGGGCT 3449	3390	Ś
CACACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGAG	3541	Дb
CACACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTTGAGTGAG	3330	Ş
GAGCAGACACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	3481	B
GAGCAGACACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	3270	8
ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCAGGCCGA 3480	3421	B

Search completed: February 29, 2004, 21:00:05 Job time: 966.534 secs

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Title:
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Maximum DB seq length: 2000000000
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17262.293 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a

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SUMMARIES

414.8	3414.8 8	3414.8 8	2 3422 8	1 3504.8	0 3536 9	9 3557 9	8 3557 9	7 3559 9	6 3559 9	5 3559 9	4 3559 9	3 3559 9	2 3559 9	1 3559 9	0 3559 9	9 3559 9	8 3559 9	7 3559	6 3559 9	5 3559 9	4 3559 9	3 3559 9	2 3559 9	1 3559 9	0 3559	9 3559 9	8 3559	7 3559 9	6 3559	5 3559.4 9		3 3572.6 9	2 3572.6	2572 6	3 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	0.00	3586	7.8 9	767.8	767.8 9	767.8	767.8 9	7.8 9	NO. Score Mat	, p
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ALIGNMENTS

TITLE JOURNAL	AUTHORS	REFERENCE	ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	Locus	RESULT 1 E36795
Human telomerase catalytic subunit promoter Patent: JP 1999253177-A 3 21-SEP-1999;	Thomas, R.S., Jochimu, R., Toru, N., Karen, B.C., Greg, B.M., Calvin, B.H. and William, H.A.	1 (bases 1 to 3855)	unidentified	unidentified	JP 1999253177-A/3.	E36795.1 GI:13022758	E36795	Human telomerase catalytic subunit promoter.	E36795 3855 bp DNA linear PAT 18-JUN-2001	

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CC C12N1/19,C12N1/21,C12N5/10,C12N9/12,C12P21/08,(C12N1/19, PC

C12R1:84),

PC (C12N1/21,C12R1:19),(C12N9/12,C12R1:19),(C12N9/12,C12R1:84),

PC (C12N9/12,C12R1:91),C12N15/00,A61K37/64,C12N5/00 CC

Strandedness: Single;

CC Topology: Linear;

PH Key Location/Qualifiers

FT CDS 56 .2479
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OS Unidentified

SUBJECTORY

OF 1999251177-A/3

PD 21-SEP-1999

PF 15-CCT-1998 JP 1998320169

PF 15-CCT-1998 US 08/724.643,18-APR-1997 US 08/844.419, PR

01-CCT-1998 US 08/724.643,18-APR-1997 US 08/851.843, PR

02-APR-1997 US 08/846.017,06-MAY-1997 US 08/911.312, PR

03-MAY-1997 US 08/854.050,14-AUG-1997 US 08/915.503 PI THOM

R SECTION JOCHIMU RINGNER, TORU NAKAMURA, KAREN B CHAPMAN, PI GREG
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C12N15/09, A61K31/70, A61K38/55, A61K39/395, A61K39/395, A61K48/00,
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Location/Qualifiers
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/mol_type="genomic DNA"
/db_xref="taxon:32644"
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0 0	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	488 CCGCGTGGGCGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGGGG	368 GCTGCTGGACGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA 427	308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 367	248 ACGGCCGCCCCCCCCCCCCCCCTCCTTCCGCCAGGTGTCCTGCCTG	188 GGACCCGGCGGCTTTTCCGCGCGCGCTGGTGGCCCAGTGCCTGGTGCGTGC	128 GCCGCTGGCCACGTTCGTGCGCCCCTGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 187	68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTGCCTGCGCAGCCACTACCGCGAGGTGCT 127	8 GCAGCGCTGCCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGGCACCCCCGGGATGCC 67	atch 98.5%; Score 3767.8; DB 6; Length 3855; cal Similarity 99.0%; Pred. No. 0; 3815; Conservative 0; Mismatches 2; Indels 36; Gaps 1;		Patent: US 6475789-A 4 05-NOV-2002; Location/Qualifiers Ce 1 3855	Harley, C.B. and Andrews, W.H. Human telomerase catalytic subunit: diagnostic and therapeutic methods	Unclassified. 1 (bases 1 to 3855) Cech,T.R., Lingner,J., Nakamura,T., Chapman,K.B., Morin,G.B.,	Unknown.	Sequence 4 fro AR243330		3841 AAAAAAAAAAA 3853
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1688 CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGTCTTTCTT	1628 GAGCCCAGGGTTGGCTGTGTTCCGGCCCCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687	68 GCTCTCGCTGCAGGAGCTGACCTGGAACAATGACCGTGCCGGACTGCCGTTGGCTGCCGCAG	OB CAACGAACGCCCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA	.448 CGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA	388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACACGCCCCTGGCAGGTGTA 381 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCACCCCTGGCAGGTGTA 381 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCGCCAGCAGCAGCAGCAGCCCCTGGCAGGTGTA	28 AGCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGA	268 GTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC	208 GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACCGCA	148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGATGCCCCGCCGAGGTTGCCCCGCCT	1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG			.Β	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTTCACCTGCCAGACCCGCCGAAGAAGC 907	781 TGCCCCTGAGCCGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCACCCGGGCAGGAC 847	GAGGCGCGGGGCAGTGCCAACCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC	661 CTGAACCATAGCGTCAGGGAAGCCGGGGTCCCCCTGGGCCTGCGAGCCCGGGTGCGAG 720 728 GAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG

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EB 2821 AGAICCTOTOCOTOTOGOCOTOCOCOCOCOCOCOCOCOCOCOCO	

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728 GAGGCGCGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	608 TCAGGCCCGGCCCCCCCCCACACGCTAGTGGACCCCCGAAGGCGTCTGGGATGCGAACGGGC 667	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCCGCTGCCAC 607	488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGGCGCTCTTTGTGCTGGT 547	428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGCGGGGGGGG	368 GCTGCTGGACGGGGCCCCGGGGGCCCCCGAGGCCTTCACCAGCGTGCGGAGCTA 427	308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 367	248 ACGGCCGCCCCCCCCCCCCCCCCCTCCTTCCGCCAGTGTCCTGCCTG	188 GEACCCGGCGGCTTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGC	128 GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 187	68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT 127	8 GCAGCGCTGCGTGCTGCTGCGCACGTGGGAAGCCCTGGCCACCGCGACCACCCCGCGATGCC 67	y Match 98.5%; Score 3767.8; DB 6; Length 3855; Local Similarity 99.0%; Pred. No. 0; hes 3815; Conservative 0; Mismatches 2; Indels 36; Gaps 1;	e 1. 3855 /organism="unknown" /mol_type="mRNA"	Morin,G.B. a Promoter for Patent: US (unknown. Unknown. Unclassified. 1 (bases 1 to 3855)	AR390472.1 GI:40112396	AR390472
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1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC	4 4 4 1	60 0	621	561	10	44 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	7 0	21	261	01 08	₽ 80		8 CCCGGTGTAC	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGC	788 TGCCCTTGAGCCGGAGCGGAACGCCCTTTGGGCAGGGTCCTGGGCCCACCCGGGCAGGAC	21

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2911 2940	2852 AGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCATC	
2851 2880	2792 ACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCCAACATCTACA	
2791 2820	2732 GCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTGTC	
2731 2760	2672 AGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCGCG	
2671 2700	2612 CGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCTGGAGGTGC	
2611 2640	2552 CAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGATGC	
2551 2580	2492 TCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAAGA	
2491 2520	2432 TCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCCCACGCGAAAACCT	
2431 2460	2372 GCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCTGC	
2371 2400	2312 AGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCACGCTGCTCTGCA	
2311 2340	2252 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGGCA	
2251 2280	2192 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGTGCG	
2191 2220	2168 GCCGCCTGAGCTGTA	
2167 2160	2108 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCCC	
2107 2100	2048 CAGCGTGCTCAACTACGAGCGGGGGGGGCGCCCGGGCCTCCTGGGGGGGCGTCTTGTGCTGGG	
2047 2040	1988 CAGAACGTTCCGCAGAGAAAAGAGGGCCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT	
1987 1980	1928 CITCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC	
1927 1920	1868 GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	

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AR393086 3855 bp mRNA Sequence 4 from patent US 6617110. AR393086 AR393086.1 GI:40118361 . Unknown.

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661 CTGAACCATAGCGTCAGGAAGGCTGAGGTCCTCGCGTTGCCAAGAGGCCCAGCCCGGGTGGAG 720 728 GAGGCGCGGGGCAGTGCCAAGTCTGCCGTTGCCCAAGAGGCCCAAGCGTGGCGC 787	608 TCAGGCCCGGCCACACGCTAGTGGACCCGCGAAGGCGTCTGGGAATGCGAACGGGC 667 601 TCAGGCCCGGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGAATGCGAACGGGC 667 602 TCAGGCCCGGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 660 603 TCAGGCCCGGCCACACGCTAGTGGACCCCCGAAGGCGTTGGGATGCGAACGGGC 660 604 TCAGGCCCGGGCCCCCGCCACACGCTAGTGGACCCCCGGGTGCGAACGGGC 660 605 TCAGGCCCGGGCCCCCGCCACACGCTAGTGGACCCCCGGGTGCGAACGGGC 660	88 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCGC	368 GCTGCTGGACGGGGGCCCCCGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA 427	241 ACGGCGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	1 GCCGCTGGCCAACGTTCGTGCGGCGCCCTGGGGCCCAGGGCTGGCGGCTGCTGCAGGCCGG 1 GCACCCGGCGGCTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGC	68 GCGCGCTCCCCGCTGCCGAGCCGTGCGTGCGCTGCTGCGCAGCCACTACCGCGAGGTGCT 1	Match 98.5%; Score 3767.8; DB 6; Length 3855; Local Similarity 99.0%; Pred. No. 0; es 3815; Conservative 0; Mismatches 2; Indels 36; Gaps 1; 8 GCAGCGTGCGTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCATGCC 67	Unclassified. 1 (bases 1 to 3855) 1 (bases 1 to 3855) 2 Cech, T.R., Lingner, J., Nakamura, T., Chapman, K.B., Morin, G.B., Harley, C.B. and Andrews, W.H. Cells immortalized with telomerase reverse transcriptase for use in Cells immortalized with telomerase reverse transcriptase for use in Cells immortalized with telomerase reverse transcriptase for use in Cells immortalized with telomerase reverse transcriptase for use in Cells immortalized with telomerase reverse transcriptase for use in Cocation/Qualifiers 1. 3855 /mol_type="mrnna"
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	TGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTC	8
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	CACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCTGG	DЪ
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	2492 TCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAAGA 2551	8
••	2461 TCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCCACGCGAAAACCT 2520	Dβ
	CTTGCGTTTGGTGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGAAAAACC	Ş
	2401 GCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGGGGGACGGGCTGC 2460	₽
-	JTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGGACAGGGCTG	Qγ
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PAT 25-NOV-2003

SOURCE ORGANISM AX810039 3855 bp Sequence 4 from Patent EP1333094. AX810039 GI:38523862

REFERENCE Homo sapiens (human) Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. Cech, T.R., Lingner, J., Nakamura, T., Chapman, K.B., Morin, G.B.,

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Best Local Similarity
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Human telomerase catalytic subunit
Patent: EP 1333094-A 4 06-AUG-2003;
Geron Corporation (US) / University
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GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC
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SGDKEGURPSFLUSSLERSLTGARRLYDETIFLGSRPKWPGTPRELIPRLPQRYWQMRPL
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PXFDGLRPIVNMDYVVGARTFREKKAAERLTSRVKALFSVLAVERARRPGLLGASVCH
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VRRYAVVQKAAHGHVRKAFKSHVLRPVPGDPAGLHPLHAALQPVLRRHGEQAVCGDSA
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/protein_id="CAE75640.1"
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PI CALVIN B

PC A61K28/00

PC C07K5/10,

PC C12N15/09,

PC C12Q1/02,

PC C12Q1/02,

PC G01N33/53,

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Strandedness:

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PD 27-MAR-2001
PF 27-JUL-2000 JP 2000227474
PR 01-OCT-1996 US 08/724643,18-APR-1997 US 08/844419
PR 01-OCT-1996 US 08/846017,06-MAY-1997 US 08/851843 PR 25-APR-1997 US 08/846017,06-MAY-1997 US 08/913112 PR 14-AUG-1997 US 08/9131312 PR 14-AUG-1997 US 08/913951,14-AUG-1997 US 08/913951,14-AUG-1997 US 08/915503 PI R SECTION JOACHIM LINGNER, TORU NAKAMURA, KAREN B CHAPMAN, PI G
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Sechi,T.R., Lingner,J., Nakamura,T., Chapman,K.B.,
Harley,C.B. and Andrews,W.H.
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¢3 ¢1	Qy 241 GGGACGGCCGCCCCCCCCCCCCCTCCTTCCGCCAGGTGTCCTGCCTG	Oy 181 AGCGCGGGGACCCGGCGGCTTTCCGCGCGCGTGGCCCAGTGCCTTGGTGGCGTGCCCT 240	Qy 121 AGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTGC 180 121 AGGTGCTGCCGCTGGCCACGTTCGTGCGGCCCTGGGGCCCCAGGGCTGGTGC 180 121 AGGTGCTGCCGCTGGCCACGTTCGTGCGGCCCTGGGGCCCCAAGGGCTGGCGCTGGTGC 180	QY 61 CGATGCCGCGCGCTCCCGCTGCCGAGCCGTGCCTGCTGCTGCAGCCACTACCGCG 120	TCAGGCAGCGCTGCGTCCTGCGCACCGTGGGAAGCCCTGGCCCCGGCCACCCCCG	Query Match 93.8%; Score 3586; DB 6; Length 4042; Best Local Similarity 94.6%; Pred. No. 0; Matches 3824; Conservative 0; Mismatches 0; Indels 218; Gaps 2;	/mol type="unassigned DNA" /isolate="HUMAN" /db_xref="taxon:32644" ORIGIN	WICK MARE	AUTHORS Wick, M. and Hagen, G. TITLE HUMAN CATALYTIC TELOMERASE SUB-UNIT AND ITS DIAGNOSTIC AND THERAPEUTIC USE THERAPEUTIC USE THERAPEUTIC USE TOTRNAL PATENT: WO 9850446-A 1 30-DEC-1998.	.3	ITION Sequence 1 from Patent WO9859040. SION AX001446 ON AX001446.1 GI:7241612. RDS	4042	Qy 3812 AAAAAAAAAA 3824 Db 3841 AAAAAAAAAAAA 3853	Qy 3752 GGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAAA	Qy 3692 CTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGGCAAATTGGGGGGA 3751	Qy 3632 GTGGAGACCCTGAGAAAGGACCCTGGGAACTTTGGAGTGAGCCAAAGGTGTGCC 3691	QY 3572 AGATTCGCCATTGTTCACCCCTCGCCCTGCCCTCTTTGCCTTCCACCCCCACCATCCAG 3631
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181 AGCGCGGGGACCCCGGCGCGCTCGCGCGCGCGCGCGAGTGCCCTGGTGCGTGC	121 AGGTGCTGCCCCTGGCCACGTTCGTGCGGCGCCTGGGGCCCAGGGCTGGCGGCTGGTGC 180	61 CGATGCCGCGCCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCG 120	1 GTTTCAGGCAGCGCTGCGTGCTGCGCGCACGTGGGAAAGCCCTGGCCCCGGCCACCCCCG 60	y Match Local Similarity 94.6%; Pred. No. 0; hes 3824; Conservative 0; Mismatches 0; Indels 218; Gaps 2;		L Patent: WO 9933998-A 2 08-JUL-1999; WICK MARESA (OB); BAYER AG (DE) Location/Qualifiers rce 14042		Homo sapiens (human) ISM Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	N Sequence 2 from Patent WO9933998. AX003121 AX003121.1 GI:9926983	AX003121 4042	3803 AAAAAAAAAAAAAAAAAAAAAA 3824 	3743 TTGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAA 3802 	3683 AGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAA 3742	3623 ACCATCCAGGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAA 3682	3563 TCCATCCCCAGATTCGCCATTGTTCACCCCTCGCCCTGCCCTTTGCCTTCACCCCC 3622	3503 CACCCCAGGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAG 3562	3443 AAGGCTGAATGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTC 3502	601
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OS Unidentified
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PN UP 2002508662-A/1
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PD 19-MAR-2002
PD 19-MAR-2002
PR 09-JUN-1998 UP 1999503685
PR 20-JUN-1998 DE 197 26 329.1,26-MAR-1998 DE 198 13 274.3 PR
14-APR-1998 DE 198 16 496.3
PI OUSTAV HAGEN, HANS ULRICH SIEGMUND, WALTER WEICHEL, MARESA WICK,
PI DMITRY ZUBOV
PC C12N15/12, 20EOV
C12N15/17.
PC A61K31/70
CC Strandedness: Single;
CC Topology: Linear;
CC Human telegrase catalyst subunit, diagnostic and therapeutic utilization
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Hagen,G:, Siegmund,H.U., Weichel,W., Wick,M. and Zubo,D.
Human telomerase catalyst subunit, diagnostic and therapeutic
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PC (C12N9/12,C12R1:91),C12N15/00,A61K37/64,C12N5/00 CC
Strandedness: Single;
CC Topology: Linear;
FT Topology: Linear;
FH Key Location/Qualiflers
FT CDS 56..3454.
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PF 15-CCT-1998 UP 1998320169
PR 01-CCT-1996 US 08/724.643,18-APR-1997 US 08/844.419
PR 01-CCT-1996 US 08/724.643,18-APR-1997 US 08/851.843, PR 09-MAY-1997 US 08/851.843, PR 09-MAY-1997 US 08/854.050,14-AUG-1997 US 08/911.312, PR 14-AUG-1997 US 08/915.503 PI 14-A
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Thomas,R.S., Jochimu,R., Toru,N., Karen,B.C.,
Calvin,B.H. and William,H.A.
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                         CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC
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C12Q1/48,C12Q1/68,G01N33/15,G01N33/48,G01N33/50//C07K14/47, PC
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C12N15/09, A61K31/70, A61K38/55, A61K39/395, A61K39/395, A61K48/00,
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1448 CGGCTTCGTGCGGGCCTGCCTGCGCTGGTGGCCCCAGGCCTCTGGGGGCTCCAGGCA 1507	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCAGCAGCAGCCCCTGGCAGGTGTA	1328 AGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAAGGGCTCTGTGGCGGCCCCCAAGGAGGAGGA 1387	1268 GTGCCCCTACGGGGTGCTCCTCAAGACGCACCTGCCCGCTGCGAGCTGCCGGTCACCCCAGC 1327	1208 GCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCT 1207	1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	1028 CCCGGTGTACGCCGAGGACCACGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	968 GUACCACGGGGGCCCCCATCCACATCGGGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCATCCGTGGGCCGCCA 967	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	788 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	728 GAGGCGCGGGGGAGTGCCAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGGTGCGAG 727	608 TCAGGCCCGCCCACCACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	488 CCGCGTGGGCGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGCGGGGGGGG
21 CAAGTCCTACGTCCAGTGCACATGGAGAACAAGCTGTTTGCGGGGGATTCCGGCGGGACGGGTTCTTGCGCGGGACGGGTTTTGCGGGGGATTCCGGCGGGACGGGTTTTGCGGGGGATTTCGGCGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGGGGATTTGCGGCGGGACGGGACGGGACGGGTTTTGCGGGGGATTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGGGGATTTGGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGGGGACGGGTTTTGCGGCGGGACGGGGTTTTGCGGCGGGACGGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGCGGGACGGGTTTTGCGGGGGACGGGTTTTGCGGGGGACGGGGTTTTGCGGCGGGACGGGGTTTTGCGGGGGACGGGTTTTGCGGGGGACGGGGTTTTGGGAGGTTTTGGGAGGGTTTTGGGAGGGGTTTTGGGAGGGTTTTGGGGGG	19		08	52 TOGGTATGCCGTGGTCCAGAAGGCCGCCATGGGCACGTCCGCAAGGCCTTCAAGA	GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAAACCCCAGAACACGTACTGCGTGCG	GCCGCCTGAGCTGTA#	2108 CTGGACGATATCCACAGGCCTGGCGCACCACTTCGTGCTGCGTGTGCGGGCCCAGGACCC	2048 CAGGSTGCTCAACTAACGAGCGGGGGGGCGCCCGGGCCTCCTGGGCGGCCTCTGTGCTGGGCGGC	1988 CAGAACGTTCCGCAGAGAAAGAGGGCCGACGTCTCACCTCGACGGTGAAGGCACTGTT	1928 CTTCATCCCCAAGCCTGACGGGCTGACGGCCGATTGTGAACATGGACTACGTCGTGGGAGGCTGATGGACTACGTCGTGGGAGGCTGATGGACTACGTCGTGGGAGGCTGCGGCTGCGGCGATTGTGAACATGGACTACGTCGTGGGAGG	1868 GGAAGCAGAGCTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	1808	1748 1741	1688 CAAGTTCCTGCACTGACTGATGTAGTACGTCGTCGAGCTGCTCAGGTCTTTTTA	1628 1621	1561	1501 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA

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Morin,G.B. and Andrews,W.H.
Promoter for telomerase reverse transcriptase
Patent: US 6610839-A 343 26-AUG-2003;
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Sequence 343 from patent US 6610839.
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                                                 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 367
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2310 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTG 2369	- 29		
2461 CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGGG 2520	Db	81 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGCAGCTGTA 14	문 :
2308	γ	88 CACAGACOCOCOCACAGACACACACACACACACACACACA	5
TCGAGCAGAGCTCCTCCCTGAATGAGGCCAG	Db	1328 AGCCGGTGTTCTGTGCCCGGGAGAAGACCCCAGGGCTTCTGTGGCGGCCCCCGAGGAGGAGGAGAA 1387 	8 8
08	Q	61 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 132	문
2308 2307 2308 2307	yo dd	68 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTCACCCCA	8
	Db !	1208 GCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267	음 성
2221 GGÁCAGGCTCACGGAGGTCATCGCCAGCATCAACCCCCAGAACACGTÁCTGCGTGCG 2280 2252 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGAAGGCCTTCCAAGA 2307	מם שם	41 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCCGCAGGTTGCCCCGCCT 12	дь
2192 GGACAGGCTCACGGAGGTCATCGCCAGCATCAAACCCCCAGAACACGTACTGCGTGCG	δ	148 GACCATOTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCCGCAGGTTGCCCCCGCT 120	Ş
2168 GCCGCCTGAGCTGTA	B &	1088 GCCCTCCTRCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	유성
01 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGGCCCAGGACCC	ממ	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	유 성
2041 CAGCGTGCTCAACTACGAGCGGGCGCGGCGCCCCGGCCTCCTGGGCGCCTCTGTGCTGGG 2100	δ p	61 GCACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC	В
2048 CAGCGTGCTCAACTACGAGCGGGCGCGCGCCCCGGGCCTCTGGGGCGCCTCTGTGCTGGG 2107	γo	68 GCACCACGCGGGCCCCCATCCACATCCACGCCACGTCACGTCCACGTCCTCCGGACATACGTCACATACACATACACATACACATACACATACACATACACATACACATACACATACACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATACATAC	Ş l
1988 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTACCTCGAGGGTGAAGGCACTGTT 2047	B &	ע ע	유 성
21 CTTCATCCCCAAGCCTGACGGGCTGCCGCCGATTGTGAACATGGACTACGTCGTGGGAGC) Db	841 GCGTGGACCGAGTGATCGTGTTTCTGTGGTGTCACCTGCCAGACCCGCCAAAGAAGC 900	. 문 성
28 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC	Q.	81 TGCCCCTEAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 8	5 5
1868 GGAAGCAGAGGTCAGGCAGCAGTCGGGAAGCCAGGCCCGCCTGCTGACGTCCAGACTCCG 1927	පි රු	88 TGCCCCTGAGCCGGAGCGGACCGCCCGTTGGGCAGGCGTCCTGGGCCCACCCCGGGCAGGAC 84	\$ 8
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1741 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTTCTACCGGCCGAGTGTCTGGAG 1800 1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAAGAGGGTGGCAGCTTGCAGGAAGTGTCTGGA	OV Db	GGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG	D
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Cech,T.R., Lingner,J., Nakamura,T., Chapman,K.B., Morin,G.B.,
Harley,C.B. and Andrews,W.H.
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2308	1387	1328 AGCCGGTGTCTGTGCCCCGGGAGAAGCCCCCAGGGCTCTGTGGCGGCCCCCCGAGGAGGAGGA	
CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA	1327 1320 Db	1261 GTGCCCCTACGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC:	
		201 GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGC	
2252 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCAACGCCCAAGGCCTTCAAGA 2307	1267 Qy		
2192 GRACAGGCICACGGAGGICAICGCCAGAACCCCAGAACACGIACIGCGIGCG	1207 Cy 1200 Db	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT:	
CCCCCTCAGCTCGTA	1147 Db	1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA:	
CCTGAGGATATICCACAGGGCCTGGCGCACCTTCGTGCTGCTGCTGCTGCGGCCCAGAACCC	1087 Db	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAAGGAGCAGCTGCG:	
CAUCUSECTICAACTACGAGCGGGCGCGGGGGCCCCGGGCGCCTCTGTGCTGGG	1027 Db	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCCC	
CAGAACGTTCCGCAGAGAAAAGGGCCCGACGTCCACCTCGAGGGTGAAGGCACTGTT	967 Db	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	
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GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCTGCTGAGACTCCAGACTCCAGACTCCGGIIIIIIIIII	847 Db	788 TGCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC	
CARGITIGCAAAGCAITIGGAATCAGCACTTGAAGAGGGTGCAGCTGCCGGAGCTGTC	787 Db	728 GAGGGGGGGGGAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC	
ISTRACGARGACCACGTTTCAAAAGAACAGCTCTTTTTCTACCGGAAGAGTGTCTGGAAGAGTGTCTGGAGTGTCTGGAGTGTCTGGAGTGTCTGGAGTGTCTGGAGTGTCTGAAAAGAACAGGCTCTTTTTCTACCGGCCGAGTGTCTGGAGTGTCTGGAGTGTCTGAAAGAACAGGCTCTTTTTCTACCGGCCGAGTGTCTGGAGTGTCTGGAG	727 Db	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCTGGGCCTGCCAGCCCCGGGTGCGAG	
CAAGTICCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT	667 Db	608 TCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC	
28 GAC 21 GAC	607 Db	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCCGCCGCTGCCAC	
61 GCT	547 Db	488 CCGCGTGGGCAACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCGC	
08 CAA 01 CAA	487 Oy 480 Db		
1448 GGCTTCGTGCGGGCCTGCGCCCGGCTGGTGCCCCCAGGCTTCTGGGGCTCCAGGCA 1507	427 Qy 420 Db	368 GCTGCTGGACGGGGCCCGCGGGGGCCCCCGGAGGCCTTCACCACCAGCGTGCGCAGCTA	
1388 CACAGACCCCCGTCGCCTGGTGCAGCTCCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1447	367 Db	308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGG	
	307 Db	248 ACGGCCGCCCGCCGCCGCCCCTCCTTCCGCCAGGTGTCCTGCCTG	

	GGCC 3329 GGCC 3540	O GAGCAGACACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	327 348	B 8
	CCGA 3269	O ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCAGGC	321 ₀ 342:	음 성
	CGGC 3209	ACTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCCAACC 	36	Å 4
	CGCA 3360	CTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAG	W	片
	CGCA 3149	GACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGAC	309	δ
	330	1 GGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCAAG	324	дь -
	308 308	CCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCA	303	Ş
		AACGCAGGGATGTCGCTGGGGGGCCAAGGGCC 	318	B &
	Ť 318	TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCT	312) B
	CCCT 2969	TOAGCAAGITTIGGAAGAACCCCCACATITTITCCTGCGCGTCATCTCTGACACGGCCT	291	Ş
	TTCA 3120	AAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCA	306	ם
	29	CACGCATGTGTGCTGCAGCTCCCAI	285	Ş
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	300	1 CGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG	294	망
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	ភ	1 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTGTCACCTTCAACC	288	Дb
	G 27	CACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTC	267	Ş
	GAGGT 2880	1 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGCTATACCCGGACCCTGG	282	g G
	AGGT 2669	CACGGCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCT	261	Ş
	82	GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTT	276	맔
	26	GAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTT	255	5
	76	CGTGGTGAACTTC	270	Дb
	A 254	TCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTC	249	δ.
	 GAAAAC 2700	CTCACCTCACCCACGC	264	당
	AAAC 2489	0 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGA	243	VQ VQ
	GGCT 2640	1 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGGACGGG	258	Db
	GGCT 2429	-G	, 237	Ş
	258	1 CAAGTCCTACGTCCAGTGCCAGGGGATCCGCCAGGCTGCATCCTCTCCACCTCTCTG	25	밁
	TCTG 2369	O CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCACGCTGC	. 231	8
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Sequence 343 from Patent EP1333094.
AX810378
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Human telomerase cattalytic subunit
Patent: EP 1331094-A 343 06-AUG-2003;
Geron Corporation (US); University Technology Corporation (US)
Location/Qualifiers
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Mammalia; Eutheria; Primates; Catarrhini; Ḥominidae; Homo.
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SGDKEQLRPSFLLSSLRPSLTGARRLVETIFLGSRPWMPGTPRRLPRLPQRYWQMRPL
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/db_xref="taxon:9606"
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Best Local Sim Matches 3810; Query Match 721 661 899 601 809 541 481 361 728 548 488 421 428 368 301 308 241 248 181 188 121 128 GCCGCTGGCCACGTTCGTGCGGCGCCCTGGGGCCCCAGGGCTGGTGGTGGTGCAGCGCGG 187 ġ 68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCGCCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT 127 1 GCAGCGCTGCGTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATGCC 8 GCAGCGCTGCGTGCTGCGCACGTGGGAAGCCCTGGCCCGGCCACCCCGGGATGCC 67 Similarity CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 367 GAGGCGCGGGGGCAGTGCCAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC GAGGCGCGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCCGGGTGCGAG TCAGGCCCGGCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 540 GCTGCTGGACGGGGCCCGCGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA 427 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT 120 TCAGGCCCGGCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC GCTGCTGGACGGGGCCCGGGGGCCCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA 420 GCCGCTGGCCACGTTCGTGCGGCGCCCTGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 180 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 360 Conservative LDDIHRAWRTFVLÆVRAQDFPERLYFVKVDVTGAYDTI PQDRLTEVIASI I KPONTYC VRRYAVVQKAHGHVRKAFKSHVGTLTDLQFYMRQFVAHLQETSELRDAVLTEQSSSL NBASSGLEDVEHÆVRSHKAFKTVDLQFYMRQFVAHLQETSELRDAVLTEQSSSL RRDGLLLRLVDDFLLVTPHLTEAKT FLÆTLVRGVEFYGCVVMLRKTVVNFEVEDEAL GGTAFVQKVEAHGLFFWGGLLDTRTLEVQSDYSSYARTSI RASVTFNRGFKAGRNMRR KLFGVLÆLKGLSLFPWGGLLLDTRTLEVQSDYSSYARTSI RASVTFNRGFKAGRNMRR KLFGVLÆLKGLSLFPWGGLLLDTRTLEVQSDYSSYARTSI RASVTFNRGFKAGRNMRF KLFGVLÆLKGLSLFPWGLVUNNSLGTVCTNIY KLLLLQAKFHACVLQLFPHQVFKNFT FFLRVISDTASLCYSILKAKNAGMSLGAKGAAGPLPSBEAVQMLCHQAFLLKLTRHRVTYVPLLGSLRTAQTQLSRKLFGTTLTALEAAANPALFSDFKTILD" FLEILIGNHAQCPYGVLLKTHCPLRAAVTPAAGVCAREKPQGSVAAPEEEDTDPRRLVQ LLRQHESPWQVVGFVRACLRRLVPPGLWGSRHMERRFILRNTKKFISLGCHAKLSIQEL TWKMSVRDCMALRRSSGVGCVPAASHRLREETLAKFLHWLMSVYVVELLRSFFYVTET TPQKNRLFFYRPSVWSKLQSIGIRQHLKRVQLKELSEAEVRQHREARPALLTSRLRFI TPQKNRLFFYRPSVWSKLQSIGIRQHLKRVQLKELSEAEVRQHREARPALLTSRLRFI PKPDGLRFI VMMDYVVGARTFRREKRAERLTSRVKALFSVLAVERARRPGLLGASVLG 93.4%; 4; Mismatches Score 3572.6; Pred. No. 0; DB 6; Length 4037; ω •• Indels 218; Gaps 480 667 600 720 660 780 240 60

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PI CALVIN B HARLEY, WILLIAM H ANDREWS
PC ASIX38/00, A61K31/7088, A61K39/00, A61K48/00, A61P35/00, A61P43/00
PC C07K5/10,
PC C07K5/107, C07K5/117, C07K7/06, C07K7/08, C07K16/40, C12N9/12, PC
C12N15/09,
PC C12Q1/02, C12Q1/48, C12Q1/68, G01N33/15, G01N33/50, G01N33/53, PC
G01N33/53,
PC G01N33/56, G01N33/573//C12P21/08, A61K37/02, C12N15/00 CC
Strandedness: Single;
CC Topology: Linear;
FH Key
FT CDS
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OS Unidentified
PN JP 2001081042-A/27
PD 27-MAR-2001
PF 27-UUL-2001 JP 2000227474
PR 01-OCT-1996 US 08/724643,18-APR-1997 US 08/816017,06-MAY-1997 US 08/81
25-APR-1997 US 08/846017,06-MAY-1997 US 08/81
09-MAY-1997 US 08/854050,14-AUG-1997 US 08/9:
14-AUG-1997 US 08/912951,14-AUG-1997 US 08/9:
14-AUG-1997 US 08/912951,14-AUG-1997 US 08/9:
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25-APR-1997 US 08/846017,06-MAY-1997 US 08/851843 PR
09-MAY-1997 US 08/850,14-AUG-1997 US 08/911312 PR
14-AUG-1997 US 08/912951,14-AUG-1997 US 08/915503 PI
R SECHI, JOACHIM LINGNER, TORU NAKAMURA, KAREN B CHAPMAN, PI G
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/mol_type="genomic DNA"
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                                                                                           CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCAGCAGCAGCCCCCTGGCAGGTGTA
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421 ACTGCCCTCAGACCTCAAGACCATCCTGGACTGATGGCCACCGACGAGGCGAGGCGAGGCCGAGACCACCAGCCCTGTCACGCCTGGACTGATGGCCACCGCCCACAGCCAGGCCGAGGCAGGC	CGGCCCTCTGCCCTCCGAGGCCGTGCAGTCCAGTGCCTGTGCCACACCAAGCATTCCTGCCTCAAGCCT 30 GACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCA 314	29.0 LANCHARITISTANDAN COCACATTITICCT COGGICATCT CITACACGCCTTCT 2969 3121 TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGCTCATCTCTGACACGGCCTCCCT 3180 2970 CTGCTACTCCATCCTGAAAGCCCAAGAACGCAGGGATGTCGCTGGGGGGCCAAGGGCGCCGC 3029 3181 CTGCTACTCCATCCTGAAAGCCCAAGAACGCAGGGATGTCGCTGGGGGGCCAAGGGCGCCGC 3240 3181 CTGCTACTCCTGAAAGCCCAAGAACGCAGGGATGTCGCTGGGGGGCCAAGGGCGCCCCC 3240 3030 CGGCCCTCTGCCCTCCGAGGCCGTGCAGGTGAGGTTGACCTACCAAGGATTTCCTGCTTGAAGGT	90 TCACACCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCACATCTA 284	670 881 730 941	761 610 821	o cicciccici i delevi dell'illillillillillillillillillillillilli	21 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTG 70 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT

Qy 186 GGGACCCGGCGGCTTTCCGCGCGCTGGTGGCCAGTGCCTGGTGTGCGTGC	Qy 126 CTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGCTGGTGCAGCG	QY 66 CCGCGCGCTCCCCGCTGCCGAGCCGTGCGCTGCCTGCTGCGCAGCCACTACCGCGAGGT	gictectectectectectectectectectectectectec	Query Match 93.1%; Score 3559.4; DB 6; Best Local Similarity 94.5%; Pred. No. 0; Matches 3798; Conservative 0; Mismatches 1;		Patent: W Universit		Homo sapiens (human) Homo sapiens Eukaryota, Metazoa, Chordata, Craniata, Mammalia, Eutheria, Primates, Catarrhini	ence 1 from Patent W00216555. 1846 1846.1 GI:19700428	AX391846 4070 bp DNA	Oy 3810 AAAAAAAAAAAAAA 3824 Db 4021 AAAAAAAAAAAAAA 4035	Qy 3750 GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAAA	QY 3690 CCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGTCCCTGTGGGTCAAATTGGGGG	OY 3630 AGGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAAAGGTGTG	QY 3570 CCAGATTCGCCATTGTTCACCCCTCGCCTGCCCTCCTTTGCCTTCCACCACCACCATCC	QY 3510 GGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATCC	QY 3450 GAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGTCGGGTCCACCCCA
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1266 CAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTCACCCCA 1325	1206 CTGCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCG 1265	1146 GAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGATCTCCCCGCAGGTTGCCCCGC 1205	99 CGGCC	1026 CCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACCAAGGAGCAGCTG 1085	966 CAGCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGT 1025	906 GCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACCTCCCACCCA	846 ACGCGTGGACCGAGTGACCGTGGTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAA 905	786 GCTGCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGG 845	726 AGGAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAAGGCGTGGC 785	666 GCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCG 725	606 ACTCAGGCCCGGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGG 665	546 GTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCTGTACCAGCTCGGCGCTGCC 605	486 GGCCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCGC	426 TACCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGGGG	366 GCGCTGGTGGACGGGGCCCCCGGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGG 425	306 GCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGGAAGAACGTGCTGGCCTTCGGCTTC 365	246 GCACGGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

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1316 CONCOCCUTTOTTTTTCCCCCCCCCCCCCCCCCCCCCCCC
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GGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAA 4035	3979 666	ថ
GGGAGGTGCTGTGGAAAATACTGAATATATGAGTTTTTCAGTTTTTGAAAAAAA 3804	3748 GGG	¥
TGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGGG 3978	3919 TGC	ਲੋ
TGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGGG 3747	3688 TGC	¥
CAGGTGGAGACCCTGAGAACCCCTGGGAGCTCTGGGAATTTTGGAGTGACCAAAGGTG 3918	3859 CCA	ř
CAGGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTTGGAGTGACCAAAGGTG 3687	3628 CC#	¥
CCCAGATTCGCCATTGTTCACCCCTCGCCCTGCCCTCTTTGCCTTTCCACCCCCACCAT 3858	3799 CCC	Ъ
CCCCAGATTCGCCATTGTTCACCCCTCGCCCTGCCCTTCGCTTTGCCTTCCACCCCCACCAT 3627	3568 CCC	¥
CAGGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCAT 3798	3739 CAC	ਲੋ
CAGGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCCACTCCCCACATAGGAATAGTCCAT 3567	3508 CAC	¥
CTGAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCC 3738	3679 CTC	ŏ.
CTGAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCC 3507	3448 CTC	¥
TGCATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGC	3619 TGC	ਲੋ
TGCATGTCCGGCTGAAGGCTGAGTGTCCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGGG 3447	3388 TGC	¥
CCCACACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGTTTTGGCCGAGGCC 3618	3559 CCC	ŏ
CCACACCCAGGCCCGCACCGCTGGGAGGTCTGAGGCCTGAGTGAG	3328 CCC	¥
GAGAGCAGACACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	3499 GAG	ğ

Search completed: March 1, 2004, 14:22:15 Job time: 9652.49 secs

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Result
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Listing first 45 summaries
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1: /cgn2 6/ptodata/2/pubpna/US07_PUBCOMB.seq:*

2: /cgn2 6/ptodata/2/pubpna/US08_NEW PUB.seq:*

3: /cgn2 6/ptodata/2/pubpna/US08_NEW PUB.seq:*

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6: /cgn2 6/ptodata/2/pubpna/US08_NEW PUB.seq:*

7: /cgn2 6/ptodata/2/pubpna/US08_PUBCOMB.seq:*

8: /cgn2 6/ptodata/2/pubpna/US08_PUBCOMB.seq:*

9: /cgn2 6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
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16548.779 Million cell updates/sec
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Copyright (c) 1993 - 2004 Compugen Ltd.
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/cgn2_6/ptodata/2/pubpna/US09C_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/US09 NEW PUB.seq:*
/cgn2_6/ptodata/2/pubpna/US10A_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/US10B_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/US10C_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/US10C_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/US10C_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
/cgn2_6/ptodata/2/pubpna/US60_NEW_PUB.seq:*
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                                   DB
                               US-10-053-758-224

US-10-208-243-1

US-10-054-295-224

US-10-054-611-224

US-10-105-963-1

US-10-044-692-1

US-10-044-539-1
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US-09-953-052-1
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US-09-733-294A-3
US-09-990-080-1
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-10-282-960- -10-282-960-	-10-294-	-10-294-778-	-10-294-778-1	09-733-294A-	-10-206-447-	ω	-10-141-220-	9-995-419A	09-994-427A	09-783-203-:	-10-044-539	-10-044-692	0-054-61	-10-054-295	-10-053-758	-438-486	766-253-10	£3-6	044-539	4-692	-10-105-616-6	09-749-728	-10-105-616-	-10-205-629-	US-10-054-611-173	-10-054-295-17	-10-053-758-1	US-09-438-486-173
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ALIGNMENTS

RESULT 1 US-10-044-692-4

Sequence 4, Application US/10044692 Publication No. US20030096344A1 GENERAL INFORMATION:

APPLICANT: Cech, Thomas R.

Lingner, Joachim Nakamura, Toru Chapman, Karen B. Morin, Gregg B. Marley, Calvin

```
ANDREWS, William H.
TITLE OF INVENTION: HUMAN TELOMERASE CATALYTIC SUBUNIT: DIAGNOSTIC AND THERAPEUTIC METHODS

NUMBER OF SEQUENCES: 335
CORRESPONDENCE ADDRESS:
ADDRESSE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
CITY: San Francisco
STATE: California
COUNTRY: United States of America
ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/044,692
FILING DATE: 11-Jan-2002
CLASSIFICATION CINKnown>
APPLICATION NUMBER: US/10/044,692
FILING DATE: CUNKnown>
APPLICATION NUMBER: US/10/044,692
FILING DATE: US/10/044,692
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; SEQUENCE DESCRIPTION: SEQ ID NO: 4: US-10-044-692-4
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Best Local
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SEQUENCE CHARACTERISTICS:
LENGTH: 3855 base pairs
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FILING DATE: 25-APR-1997
APPLICATION UNUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Apple, Randolph T.
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002600US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
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LOCATION: 56..2479
OTHER INFORMATION: /
polypeptide"
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cceceredecaceacerecreerreacerecaceciececececicirinerecreer
                             GCCGCTGGCCACGTTCGTGCGGCGCCTGGCGGCTGGCGCTGGTGCAGCGCGG
                                                                                                           CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC
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LOCATION: 1..3855
OTHER INFORMATION: /note= "nucleic acid sequence with open reading frame encoding a delta-182
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STRANDEDNESS: single
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Pred. No. 0;
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                                                                                    CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA
                                                                                                                       CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567
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3752 GGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTTGAAAAAAAA	Q	672 AGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCGCG 2
3692 CTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGGGGGGA 3751 	Qy Db	2612 CGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGTGGATACCCGGACCCTGGAGGTGC 2671
3632 GTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTTGGAGTGACCAAAGGTGTGCC 3691	מם עס	TCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGATGC 26
3572 AGATTCGCCATTGTTCACCCCTCGCCCTGCCCTTTGCCTTCCACCCCCACCACCATCCAG 3631	Qy	2 2 5
3512 GCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATCCCC 3571	da Vy	N N
3452 GTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCCAGG	d dd	372 GCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGGACGGGCTGC 2
3392 TGTCCGGCTGAAGGCTGACTGTCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGGGCTGA 3451	Qy db	2312 AGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCACGCTGCTCTGCA 2371
332 CACCEAGGCCGCACCGCTGGGACTCTGAGGCCTGAGTGAGTGTTTGGCCGAGGCCTGCA 3391	Qy	2252 TCGGTATGCCGTGGTCCAGAAGGCCCGCCATGGGCACGTCCGCAAGGCCTTCAAGAGGCA 2311
GCAG	9d 4d	2192 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGTGCG
212 TGCC 241 TGCC	S & &	2168 GCCGCCTGAGCTGTA
152 TGAG	₽ <i>\$</i>	2108 CCTGGACGATATCCACAGGGCCTGGCGGCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC 2167
092 CTCG	2 B 8	2048 CAGCGTGCTCAACTACGAGCGGGGCGCCGGCCCCCGGCCTCCTGGGGGCCTCTGTGCTGGG 2107
032 GCCC	d d d	1988 CAGAACGTTCCGCAGAGAAAAGAGGGCCCAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 2047
972 GCTA	d d	1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987
912 AGCA 941 AGCA	d d	1868 GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC
881	B 5	1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGAGGTGCAGCTGCGGGAGCTGTC 1867
792 ACAG 821 ACAG) B Q	1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807.
761 GCTT	g 45	1688 CAAGTICCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT
701 AGAG	g b	1628 GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687

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RESULT 2
US-10-044-539-4
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                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM DEFE COMPATIBLE
COMPUTER: IBM PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/044,539
FILING DATE: 11-Jan-2002
CLASSIFICATION ADTA:
APPLICATION NUMBER: US/10/044,539
FILING DATE: 415
FILING DATE: 400,000
APPLICATION NUMBER: US 08/854,050
FILING DATE: 06-MAY-1997
APPLICATION NUMBER: US 08/861,843
FILING DATE: 06-MAY-1997
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
                                                                                                                                                                                                                                                                                      NAME: Apple, Randolph T.
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002600US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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Harley, Calvin
Andrews, William H.
TITLE OF INVENTION: HUMAN TELOMERASE CATALYTIC SUBUNIT:
THERAPEUTIC METHODS.
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                                                                                                                                        FEATURE:
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                    FEATURE:
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                                                    LOCATION: 1..3855
OTHER INFORMATION: /note= "nucleic acid sequence with an open reading frame encoding a delta-182
                                                                                                                                                                       TYPE: nucleic acid STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: San Francisco
STATE: California
                                   variant polypeptide"
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Nakamura, Toru
Chapman, Karen B.
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Matches 3815; Conserv
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CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCATCCGTGGGCCGCCA
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                           CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCATCCGTGGGCCGCCA 967
                                                                                                                                                                                    TGCCCCTGAGCCGGAGCGGACGCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC
                                                                                                                                                                                                                                                                      GAGGCGCGGGGCAGTGCCAAGCCGAAGTCTGCCGTTGCCCAAGAGGGCCCAGGCGTGGCGC
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                                                                       GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCGGCCGAAGAAGC
                                                                                                                 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCGGCCGAAGAAGC 907
                                                                                                                                                  TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC
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OTHER INFORMATION:
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ilarity 99.0%;
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Pred. No. 0;
0; Mismatches
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1988 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 2047 	GGAGC 1	GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	1808 CAAGTIGCAAAGCATIGGAATCAGACAGCACTIGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867	1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGGTCTCAGGTCTTTTTTTT	1628 GAGCCCAGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687	1568 GCTCTCGCTGCAAGGAGCTGAACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCAG 1627	1508 CAACGAACGCTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567	1448 CGGCTTCGTGCGGGCCTGCCGCCGGCTGGTGCCCCCAGGCCTCTGGGGCTCCAGGCA 1507	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1447	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGA 1387	1268 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 1327	1208 GCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGGCAGGTTGCCCCGGCCT 1207	1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027
Qy Qy	g Q	B 8	p Q	Db Qy	g Q	Db Qy	S S	D Q	д <i>Q</i>	p &	Db Oy	B Q	B 8	g d	, p. 18) B &	Qy Db
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RESULT 3
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Best Local Similarity 94.6%;
Matches 3797; Conservative
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                 APPLICANT: Morin, Gregg B.
APPLICANT: Geron Corporation
TITLE OF INVENTION: Human Telomerase Catalytic Subunit Variants
FILE REFERENCE: 018/258c
CURRENT APPLICATION NUMBER: US/09/990,080
CURRENT FILING DATE: 1998-08-03
PRIOR APPLICATION NUMBER: US 09/052,864
PRIOR APPLICATION NUMBER: US 09/052,864
RICH FILING DATE: 1998-03-31
NUMBER OF SEQ ID NOS: 21
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  SOFTWARE: PatentIn Ver. 2.0
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LOCATION: (56)..(3454)
OTHER INFORMATION: human telomerase reverse transcriptase (hTRT)
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1 CTTCATCCCCAAGCCTGACGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC	1868 GGAAGCAGAGAGCATCAGCAACATCAGCAAAGCCAGCCCTGCTGAACGTCCAAACTCCG 1927	08 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 	1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGTCTTTCTT	GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGAGCTGCGCTTGGCTGCGAG 1627	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567	1448 CGGCTTCGTGCGGGCCTGCGCGGCTGGTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA 1507	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCAGCAGCAGCCCCTGGCAGGTGTA 1447	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGAGGA 1387	1260 GIGCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 1320 1261 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 1320	OI GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAAGCTGCTTGGGAACCACGCGCA 1	SACCATCITITIONS INCLASCRIPTION OF THE CONTROL OF TH	CTTCCTACTCAGCTCTCAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	968 GCACCACGGGGGCCCCCATCCACATCGGGGCCACGACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCATCCGTGGGCCGCCA 967
Db 3001 TCA Qy 2850 CAA	2941 2790	Db 2881 G	2610	2550 2761	Oy 2490 CTT	Qy 2430 GCT	Qy 2370 C	Qy 2310 C	Db 2461 C	2401	Db 2341 C	Db 2281 Т	Db 2221 G Qy 2252 T	2) 2161 G	2101	2048 2041	1988
TCACAGCCTGTTTCTGGATTTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 3060	GCTTCAAGGCTGGAGAACATGCGCCAGAACTCTTTGGGGTCTTGCGGCTGAAGTG 3000 CACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGGACATCTA 2849	CGGCTTCAAGGCTGGGAAGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG 2789		AGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 2	TCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAA 2549	GCTCCTGCGTTTGGTGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGAAAAC 2489	CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGGACGGGCT 2429	CAAGTCCTACGTCCAGTGCCAGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTG 2369			CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 2400	CGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCA 2340	GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTCGCGTGCG 2280 TCGGTATGCCGTGGTCAGAAGGCCGCCGCCATGGGCAACGTCCGCAAGGCCTTCAAGA 2307		SAACGATATICACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGAACCC 	COTTOCTCAACTACGAGCGGGCGCGCCCCCGGCCTCCTGGGCGCCCTCTGTGCTGGGCGCCTCTGTGCTGGGCGCCTCCT	AACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT

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RESULT 5
US-09-843-676-224
Sequence 224, Application US/09843676
PAtent No. US20020164786A1
GENERAL INFORMATION:
APPLICANT: Cech, Thomas R.
Lingner, Joachim
Nakamura, Toru
Chapman, Karen B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3781
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                                                                                                                                                                                                                                                                                                                                     GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTTGAAAAAAA 3804
                                                                                                                                                                                                                                                                                           GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAA 4015
                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGGGGG 3749
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                                                                                                                                                                                                                                                                                                                                                                                                      93.1%;
Best Local Similarity 94.6%;
Matches 3797; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (415) 576-03
INFORMATION FOR SEQ ID NO: 224:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/854,050
PILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/846,017
PILING DATE: 25-APR-1997
APPLICATION NUMBER: US 08/844,419
PILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
APPLICATION NUMBER: US 08/724,643
PILING DATE: 01-OCT-1996
ATTORNEY/AGENT INFORMATION:
NAME: APPLE, Randolph T.
REGISTRATION NUMBER: 36,429
REGISTRATION NUMBER: 36,429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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Harley, Calvin
Andrews, William H.

TITLE OF INVENTION: No. US20020164786A1el Telomerase
NUMBER OF SEQUENCES: 225
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002930US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)_576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE DESCRIPTION: SEQ ID NO: 224:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 26-Apr-2001
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
                                                  188
                                                                                                       121
                                                                                                                                                          128 GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 187
                                                                                                                                                                                                            61 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT
                                                                                                                                                                                                                                                            68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT
                                                                                                                                                                                                                                                                                                                 1 GCAGCGCTGCGTCCTGCGCACGTGGGAAGCCCCTGGCCCCGGCCACCCCCGCGATGCC
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  GGACCCGGCGCTTTCCGCGCGCGCTGGTCCCAGTGCCTGGTGTGCCCTGGGACGC
                                          GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAAGCCCTGGCCCGGCCACCCCGCGATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: CDS
LOCATION: 56..3454
LOCATION: /product= "hTRT"
/note= "human telomerase reverse
transcriptase (hTRT) catalytic protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: Two Embarcadero Center, 8th Floor
CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/09/843,676
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 4015 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 3559;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 9; Length 4015;
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                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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341 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA	Дb	1268 GTGCCCTTACGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 1327	B 8
2281 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCA 2340 2308 2307	Q D	01 GCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACG	Db
252 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGA	, VQ	CIGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1	γQ
2221 GGACAGGCTCACGGAAGTCATCAAACCCCAGAACACGTACTGCGTGCG	Db X	1148 GACCATCTITCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT 1207	D Q
100 GGANACGGTGCAACTTTGTCAAGGTGGATGTGACGGGCGCGTACGACACCATCCCCCA) D 4	1088 GCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAAGGCTCGTGGA 1147	₽ Q
2100 CCTGGACGATAICCACAGGCCACCACCACCTTCGTGCTGCGGGGCCCAGGACCC 2160 2101 CCTGGACGATAICCACAGGGCCTGGCGGCCACCTTCGTGCTGCGGGGTGTGCGGGGCCAGGACCC 2160 2168 GCCGCCTGACGTGTA	S & &	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	дь - Q2
CAGCGTGCTCAACTACGAGCGGGCGCGGGCCTCCTGGGCCTCCTGTGCTGGG	} B &	968 GCACCACGCGGGCCCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	95 V2
CAGAAGETTCGGCAGAAAAAAGAGGCCGAGGGTCTCACCTCGAGGGTGAAGGCACTGTT CAGAAGGTTCGGCAGAGAAAAAGAGGGCCGAGGGTCTAACCTCGAGGGTGAAGGCACTGTT	. p. &	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGACTCCCACCCA	g Q
CTICATICCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGACTACGTCGTGGAGGCCTTCATCCCCCAAGCCTGACGGCTGCGGCTGATTGTGAACATGGACTACGTCGTGGAGACCTGGAGCCTGACGCTGCGGATTGTGAACATGGACTACGTCGTGGAGACCTGGAGACTTGTGAACATGGACTACGTCGTGGAGACCTTGGAGACATGGACATGGACTACGTCGTGGAGACCTTGGAGACATGGACATGGACATGGACATGGACATGGACATGGAGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATGACATACAT) B &	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	Qy db
GJAAGCAGAGGTCAGGCAGACTCCG 1 GJAAGCCAGGCCTGCTGACGTCCAGACTCCG 1 GJAAGCAGAGTCAGACTCCG 1 GJAAGCAGAGTCAGAGTCAGAGTCAGAGTCAGACTCCG 1 GJAAGCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGAAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGAAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGAGAG) B &	788 TGCCCCTGAGCCGGAGCGGACCCCCTTGGGCAGGGTCCTGGGCCACCCGGGCAGGAC 847	Qy db
CAGITICCAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGACTGTC	, p. 6	728 GAGGGGGGGGGGGAGTGCCAAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787	dg VQ
GECACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAGGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG	2	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTGCCCCTGGGCCTGGCAGCCCCGGGTGCGAG 727	D 29
TOTAL ACTION TO THE TAX TO ACT ACTION TO THE TOTAL ACTION TO THE TAX TO ACT) d	608 TCAGGCCCGGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	P &
CANCERPORA CERCIFICATION TO A CERCIFICATION OF CERCIFICAT	S B 8	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	אס מם אס
GCTCTCGCTGCAGGAGCTGGAACATGAGCGTGCGGAGACTGCGCTTGGCTGCGCAG	, p 25	488 CCGCGTGGGCACGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	Dy Qy
CAACGAACGCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCTGGGGAAGCATGCCAA	? B &	428 CCTGCCCAACACGTGACCGACGCACTGCGGGGGAGAGCGGGGGCTGGGGGGCTGCTGCTGCG 487	g 99
Gactrogradagecraceracaccactagraceccaagaceretagacetecaagac 15	dg VQ	368 GCTGCTGGACGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCACCAGCGTGCGCAGCTA 427	40 VQ
CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1	d Qy	308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 367	B &
1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGAGGAGGA	ОУ	248 ACGGCCGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	Qy Db

FILING DATE: 18-APR-1997 APPLICATION NUMBER: US 08/846,01: FILING DATE: 25-APR-1997	3270 GAGCAGACACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	γQ
; PKIOK APPLICATION DATA: ; PEPLICATION NUMBER: 09/052,919 ; FILING DATE: <unknown> APPLICATION NUMBER: US 08/844,41;</unknown>	3210 ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCCCCACAGCCAGGCCGA 3269	Db 99.
CLASSIFICATION: UNRAndown>	3150 GCTGAGTCGGAAGCTCCCGGGGACGACGACGCTGACTGCCCTGGAGGCCGAGCCAACCCGGC 3209	g gy
COMPUTER: HAMPY CARK COMPUTER: IBM PC Compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PACENTIN Release #1.0,	3090 GACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCCA 3149	Db Qy
COMPUTER READABLE FORM: COMPUTER READABLE FORM:	3030 CGGCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCAAGCATTCCTGCTCAAGCT 3089	Db
CORRESPONDENCE ADDRESS: DODRESSEE: Townsend and Townsend STREET: Two Embarcadero Center, CITY: San Francisco	2970 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGATGTCGCTGGGGGCCAAGGGCGCCGC 3029	g &
TITLE OF INVENTION: Antisense Composi Inhibiting Telome	2910 TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCT 2969	g d
Chapman, Karen B. Morin, Gregg B. Harley, Calvin B.	2850 CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCA 2909	B &
FALERIC NO. USZOWZOT/34/6AI FALERAL INFORMATION: APPLICANT: Cech, Thomas R. Lingner, Joachim	2790 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCCAACATCTA 2849	g &
RESULT 6 US-09-953-052-1 ; Sequence 1, Application US/09953052	2730 CGGCTTCAAGGCTGGGAAGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG 2789	g &
Qy 3750 GAGGTGCTGTGGGAGTAAAATACTGAATATAT	2670 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCG 2729	B &
3 5 5 9 0 3 9 0 1	2610 GCCGGCCCACGGCCTATTCCCCCTGGTGCGGCCTGCTGCTGGATACCCCGGACCCTGGAGGT 2669	gg Qy
3841	2550 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 2609	8 8
3570 3781	2490 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGGTGAACTTGCGGAA 2549	B 8
3510 3721	2430 GCTCCTGCGTTTGGTGATGATTTCTTGTTGGTGACACCTCACCCACGCGAAAAC 2489	Db Qy
3450 3661	2370 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT 2429	Db.
390	2310 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCACGCTGCTCTG 2369	D Q
41	2308	Db Qy
3481	2401 GACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAG 2460	DЬ

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GCCCTCCTTTGCCTTCCACCCCCACCATCC 3629
GATGGGGGTCCCTGTGGGTCAAATTGGGGG 3749
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: CDS
LOCATION: 56..3454
OTHER INFORMATION: /product= "human telomerase reverse transcriptase (hTRT)"
SEQUENCE DESCRIPTION: SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 4015 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: cDNA
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 308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 367
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                                                                                                             CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC
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REGISTRATION NUMBER: 42,058
REFERENCE/DOCKET NUMBER: 015389-003600US
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FILING DATE: 19-NOV-1997
APPLICATION NUMBER: US 08/974,584
FILING DATE: 19-NOV-1997
APPLICATION NUMBER: WO PCT/US97/17618
FILING DATE: 01-OCT-1997
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APPLICATION NUMBER: US 08/854,050
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2308	68 GCCGCCTGAGCTGTA	1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987 1921 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1980 1988 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 2047 1981 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 2040 1982 CAGAACGTTCCGCAGAGAAAAGAAGGGCCCGAGCGTCTCACCTCGAGGGGTGAAGGCACTGTT 2040 2048 CAGCGTGCTCAACTACGAGCGGCGCGGCGCCCCGGCCTCCTGGGGCGCCTCTGTGCTGGG 2107 2041 CAGCGTGCTCAACTACGAGCGGGCGCGGCCCCCGGCCTCCTGGGGCGCCTCTGTGCTGGG 2100 2041 CAGCGTGCTCAACTACGAGCGGGCGCGCGCCCCGGCCTCCTGGGGCGCCTCCTGGGCGCCCAGACCC 2101 CCTGGACGATATCCACAGGGCCTGGGCGCACCTTCGTGCTGCGGGGCCCAAGGACCC 2167	1501 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1560 1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGGCTGCGGAACTTGCCTTGGCTGCCAG 1627 1561 GCTCTCGCTGCAGGAGCTGAACGTGGAAGATGAGCGTGCGGAACTTGCCTTGGCTGCCCAG 1620 1628 GAGCCCAGGGGTTGGCTGTACGTGGAAGAATGAGCGTGCGCTTGCCTTGGCTTGCCTTGCCTAGCTGCCAG 1620 1628 GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCCGTTGAGAATCCTGGC 1687 1621 GAGCCCAGGGGTTGGCTTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAACTCCTGGC 1680 1688 CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGACACTCCTTTTA 1747 1681 CAAGTTCCTGCACTGGCTTATGAGTGTTACGTCGTCGAGCTGCTCAGGTCTTTCTT
249 348 Db 348 Qy 333 Db 354 QY 339 QY 339 Db 360 QY 345		Qy 27 Qy 28 Qy 28 Db 30 Qy 29 Qy 29 Qy 29 Qy 29 Db 31	
	30 90 01 01 01 01 01 01	2790 TCACAGCCTGTTTCTGGATTTGCAGGTGAACKACCTCCKAACGGTGTGCACCACKTCTA	30 41 90 01 01 50 61 10 70 70 30

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US-10-053-758-224; Sequence 224, Applicat; Publication No. US2003; Publication No. US2003;
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NAME: Apple, Randolph T.
REFERENCE/DOKET NUMBER: 36,429
REFERENCE/DOKET NUMBER: 015389-002930US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 224:
SEQUENCE CHARACTERISTICS:
LENGTH: 4015 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/053,758
FILING DATE: 18-Jan-2002
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3901
                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Andrews, William H.
TITLE OF INVENTION: No. US20030032075A1el Telomerase
NUMBER OF SEQUENCES: 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3961 GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAA 4015
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                                                                                                                                                                                              APPLICATION NUMBER: US/08/854,050
FILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/851,843
FILING DATE: 06-MAY-1997
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGGGGG 3749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAA 3804
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Release #1.0, Version #1.30
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o. US20030032075A1
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Chapman, Karen B.
Morin, Gregg B.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 94.6
Matches 3797; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: CDS
LOCATION: 56.3454
OTHER INFORMATION: /product= "hTRT"
/note= "human telomerase reverse
transcriptase (hTRT) catalytic protein
component"
SEQUENCE DESCRIPTION: SEQ ID NO: 224:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS: single TOPOLOGY: linear MOLECULE TYPE: cDNA FEATURE:
                                           788
                                                                                 721
                                                                                                                                                              661
                                                                                                                                                                                                  899
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           128 GCCGCTGGCCACGTTCGTGCGGCCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 GCAGCGCTGCGCTGCTGCGCACGTGGGAAGCCCTGGCCCCCGCCACCCCCGCGATGCC 67
                                                                                                                       GAGGCGCGGGGGCAGTGCCAAGCCGAAGTCTGCCCTTGCCCAAGAGGCCCAAGGCGTGGCGC 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 840
                                         TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847
                                                                                                                                                            CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCTGGGCCTGCCAGCCCCGGGTGCGAG
                                                                                                                                                                                                  CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727
                                                                                                                                                                                                                                         TCAGGCCCGGCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC
                                                                                                                                                                                                                                                                                                                                                          GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCGCAC 607
                                                                                                                                                                                                                                                                                                                                                                                                CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGCGGGGCGTGGGGGGCTGCTGCTGCG
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                                                                                                                                                                                                                                                                             TCAGGCCCGGCCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               coreccaacacegreacceacecacrecegegaacegegegeregegegerecrecrece
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 3559;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 14; Length 4015;
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2790 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 2849		28 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGG	δ
2730 CGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG 2789	Db Qy	868 GAAAGCAGAAGTCAGGCAGCATCGGGAAAGCCAGGCCCGCCC	B 8
2670 GCAGACCGACTACTCCAGCTARGCCGGGACCTCCATCAGAGCCAGTCTCAACCG 2729	QY Db	1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867	g &
10 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGTATACCCGGACCCTGGAGGT 	Db Qy	1748 TGTCACGGAGACCACGTTTCAAAAGAACAGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	용왕
50 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTGTTCAGAT	dd VQ	AGTGTGTACGTCGAGGTGCTCAGGTCTTTCTTTTA	P Q
90 CTTCCTCAGGACCCTGGTCCCAGGTGTCCCTCAGTATGGCTGCCTGGTGAACTTGCGGAA	do Qy	1628 GAGCCCAGGGGTTGGCTGTGTTCCGGCCGGAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687	P &
30 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCCCACGCGAAAAC	B &	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGAACTGCGCTTGGCTGGC	Db Qy
3/0 CAGCCTGTGCTACGCGACATGGAGACAAGCTGTTTGCGGGGATTCGGCGGGACGGGCT 581 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGAATTCGGCGGGACGGGCT 581 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGAATTCGGCGGGACGGGCT	9 4g	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567	D Q
1 CAAGTCTACGTCCAGTGCCAGGGGATCCCGCAGGGTTCCATCCTCTCCACGCTGCTCTG) B 4	1448 CGGCTTCGTGCGGGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA 1507	β δ
CAGTGGCCTCTTCGACGTCTTCTACGCTTCATGTGCCACGCACG	S B :	1388 CACAGACCCCCGTCGCCGGCGCAGCTGCCCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1447	B 8
01 GACCAGCCCGCTGAGGGATGCCGTCGTCGTCGAGCAGAGCTCCTCCCTGAATGAGGCCAG	Ov Db	1328 AGCCGGTGTCTGTGCCCCGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGA 1387	B 8
41 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA	Qu da		₽ &
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197 WARCHWEIT CHICHESHOEICHICH CHARCHECHARCHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHECHACHACHECHACHECHACHACHACHACHACHACHACHACHACHACHACHACHAC	S B &	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT 1207	B 8
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048 CAGGGTGCTCAACTACGAGGGGGCGCGCGCGCGCTGTGGGGGGCCTCTGTGCTGGG) B. &	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	g 49
988 CAGAACGTTCCGCAGAGAAAAGAGGGCCCGAGCTCTCACCTCGAGGGTGAAGGCACTGTT 981 CAGAACGTTCCGCAGAAAAAGAGGGCCCGAGCGTCTCACCTCGAGGTGAAGGCACTGTT 981 CAGAACGTTCCGCAGAAAAAAGAGGCCCGAGCGTCTCACCTCGAGGTGAAGGCACTGTT	p &	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACCCAC	B 8
	g B	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	9d 65

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RESULT 8
US-10-208-243-1
Sequence 1, Application US/10208243
Publication No. US20030044394A1
GENERAL INFORMATION:
APPLICANT: Gaeta, Federico C.A.
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APPLICANT: Geron Corporation
ITITLE OF INVENTION: Methods and Compositions for Eliciting an Immune
ITITLE OF INVENTION: Response to a Telomerase Antigen
FILE REFERENCE: 015589-03500PC
CURRENT APPLICATION NUMBER: US/10/208,243
CURRENT FILING DATE: 2002-07-30
PRIOR APPLICATION NUMBER: US/99/675,321
PRIOR APPLICATION NUMBER: US/99/675,321
PRIOR APPLICATION NUMBER: US/99/675,321
PRIOR APPLICATION NUMBER: US/99/075,006
PRIOR FILING DATE: 1098-03-31
PRIOR APPLICATION NUMBER: WS 60/112,006
PRIOR FILING DATE: 1998-03-31
PRIOR APPLICATION NUMBER: WO PCT/US99/06898
PRIOR APPLICATION NUMBER: WO PCT/US99/06898
PRIOR FILING DATE: 1999-03-30
NUMBER OF SEQ ID NOS: 2
SOCTWARE: Patentin Ver. 2.0
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; NAME/KEY: CDS
; LOCATION: (56)..(3454)
; OTHER INFORMATION: human telomerase reverse transcriptase (hTRT)
US-10-208-243-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
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ORGANISM: Homo sapiens
              899
              CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG
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Pred. No. 0;
0; Mismatches 0;
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1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	1688 CAAGTICCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT	1628 GAGCCCAGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTCAGGAGATCCTGGC 1687	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCCTGCGCAG 1627	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567	1448 CGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCCAGGCCTCTGGGGCTCCAGGCA 1507	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1447	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGA 1387			48 GACCATCTTTCTGGGTTCCAGGCCTGGATGCCAGGACTCCCCGCAGGTTGCCCCGCCT 1	1088 GCCTCCTTCCTAGCTCTGAGGCCCAGGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	788 TGCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	661 CTGGAACCATAGCGTCAGGGAGGCGGGGGCCCCTGGGCCTGGGCCCGGGTGCGAG 720 728 GAGGCGCGGGGGCAGTGCCAAGCCGAAGTCTGCCCTTGCCCAAGAGGCCCAGGCGTGGCGC 787	
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2610 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCCGGACCCTGGAGGT 2669	GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 2	TICTICAGEACCTGGICCGAGGIGICCCTGAGIAIGGCTGCGTGGTGAACTTGCGGAA 2	GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGAAAAC	CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGACGGGCT 	CAAGICCIACGICCAGGGGAGGGAICCGCAGGGICCAICCICICACGCIGCICICIC CAAGICCIACGICCAGGGCAGGG	CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGGG	GACCAGCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAG	2341 CGTCTCTACCTTGACAGACCTCCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 2400	81 TCGGTATGCCGTCGGCAAGGCCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCCA	21 GGGTATGCCGTGGTCCAGAAGGCCGCCATGGGCACGTCCGCAAGACCTTCAAGA	2180 GCUCUCIUMGCIUTA 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910 1910	08 CCTGGACGATATCCACAGGGCCTGGCGCGCTTCGTGCTGCTGCTGGGCCCAGGACCC 01 CCTGGACGATATCCACAGGGCCTGGCGGACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC 01 CCTGGACGATATCCACAGGGCCTGGCGACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC 02 CCTGGACGATATCCACAGGGCCTGGCGACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC 03 CCCTGGACGATATCCACAGGGCCTGGCGACCTTCGTGCTGCTGTGCGGGCCCAGGACCC 04 CCCTGGACGATATCCACAGGGCCTGGCGGACCTTCGTGCTGCTGTGCTGTGCTGCTGCTGACGACCTTGGTGCTGACGACCTTGGTGCTGACGACCTTGGTGCTGACGACCTTGGTGCTGACGACCTTGGTGCTGACGACCTTGGTGCAGACCTTGGTGACGACCTTGGTGACGACCTTGGTGACGACCTTGGTGCTGACGACCTTGGTGACGACCTTGGTGACGACCTTGGTGACGACCTTGGTGACGACCTTGGTGACGACCTTGGTGACGACCTTGGTGACGACCTTGGTGACGACCTTGGTGACACACTTGACGACCTTGGTGACGACCTTGGTGACGACCTTGGTGACGACCTTGGTGACACACTTGACGACCTTGGTGACGACCTTGACGACCTTGACGACCTTGACACACTTGACACACAC	CAGCGTGCTCAACTACGAGCGGGCGCGCGCCCCGGCCTCCTGGGCGCCCCTGTGCTGGG	CAGAACGTTCCGCAGAGAAAAGAGGCCGAGCGTCCACCTCGAGGGTGAAGGCACTGTT	CTICATICCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGACTACGTCGTGGGGACTACGTCGTGGGAGCTCGTTCATTCCCCAAGCCTGACGGCTGCGGCGATTGTGAACATGGACTACGTCGTGGGAGC	GRAGE/AGAGGT/CAGGCAA/GCCAA/GCCAA/GCCCACCCCCCCCCC	1/41 TGTUAUGARGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1800 1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867	

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3690 CCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCCTGTGGGTCAAATTGGGGG 3749
3901 CCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGGGGG 3960
                                                                                                                                    3841 AGGTGGAGACCCTGAGAAGGACCCTGGGAACTTTGGAATTTGGAGTGACCAAAGGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                            3721 GGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3390 CATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3270 снеснананся сснеснае стетсное сседеностью положение в подражение в 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3150 страетсевалестссевевастасетвастественеваевсевсаессанссеве 3209
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                                                                                                                                                                                                  АGGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTTGGAGTGACCAAAGGTGTG 3689
                                                                                                                                                                                                                                                                        CCAGATTCGCCATTGTTCACCCCTCGCCCTGCCCTCCTTTGCCTTCCACCCCCACCATCC
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INAME/KBY: CDS

LOCATION: 56..3454

OTHER INFORMATION: /product= "hTRT"

/note= "human telomerase reverse

transcriptase (hTRT) catalytic protein

component

SEQUENCE DESCRIPTION: SEQ ID NO: 224:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-054-295-224
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Matches 3797; Conservative
                                           Query Match
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                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: 224: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: 08/854,050
FILING DATE: «Unknown)
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-0000-1996
ATTORNEY/AGENT INFORMATION:
NAME: Apple, Randolph T.
REGISTRATION NUMBER: 36,429
BEGISTRATION NUMBER: 36,429
BEGISTRATION NUMBER: 36,429
                       y Match 93.1%;
Local Similarity 94.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/054,295
FILING DATE: 18-Jan-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 015389-002930US TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Flopp
                                                                                                                                                                                                                                                                                  MOLECULE TYPE: cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Andrews, William H.
TITLE OF INVENTION: No. US20030044953Alel Telomerase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Cech, Thomas R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3961 GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTTGAAAAAAA 4015
                                                                                                                                                                                                                                                                                                                       TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, 8th Floor
                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 4015 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/10054295
o. US20030044953A1
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Morin, Gregg B.
Harley, Calvin
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Nakamura, Toru
Chapman, Karen B.
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                       Score 3559;
Pred. No. 0;
  Mismatches
                                           DB 14;
0;
                                       Length 4015;
Indels 218; Gaps
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1088 GCCCTCCTTCCTACTCAGCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	968 GCACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACCCAC	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCGGCCGAAGAAGC 907	788 TGCCCTGAGCCGGAGCGGACCCCCTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	728 GAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	608 TCAGGCCCGGCCCCGCCACACGCTAGTGGAACCCCGAAGGCCGTCTGGGATGCGAACGGGC 667	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGCGTGGGGGGCTGCTGCTGCG 487	368 GCTGCTGGACGGGGCCCCCGGGGGCCCCCGAGGCCTTCACCACCAGCGTGCGCAGGCTA 427	308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGGCGGAAGAACGTGCTGGCCTTCGGCTTCGC 367	248 ACGGCCGCCCCCCCCCCCCCCTCCTTCCGCCAGGTGTCCTGAAGGAGCTGGTGGC 307	188 GAACCCGGCGGCTTTTCCGCGCGCGCTGGTGGCCTAGTGCCTGGTGTGCCTTGGGACGC 247	128 GCCGCTGGCCACGTTCGTGCGGGCGCCTGGGGCCCCAGGGCTGGCGCGTGGTGCAGCGCGG 187	68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACCTACCGCGAGCGCT 127	1 GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGGCACCCCCGGCATGCC 60
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B &	do VQ	g 49	d dd y	QY da	Db QY	dd dy	D Qy	Db Qy	Qу	g dg	D Q	g da	p Q	g S	dd Ab	D 59	, B &	S B
2168 GCCGCCTGAGCTGTA	CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGGCT	4 4 4 0	. 8 8	21	61	01	1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG	81 88	28	13 89	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA	41	88	28 21	61	GCCCAGGGTACTGGCAAATGGGGCCCTGTTTCTGGAGCTGCTTGGAAACQ	1140 WACCATCTITCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT 1141 GACCATCTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCCCCTT	1081 GCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA

CT 3089	3030 CGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCAAGCT	음 성
9C 3029	2970 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGGCGCCG	용성
CCT 2969	2910 TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCC	9d 70
CA 2909 	2850 CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCJ 	B 8
CTA 2849	2790 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATC	용 성
TG 2789 	2730 CGGCTTCAAGGCTGGGAGGACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG	β δ
ACCG 2729 	TCTCACCTTCA!	g 8
GT 2669 	2610 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCTGGAGGT	8 8
AT 2609 	2550 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT	유 성
 AA 2549 AA 2760	2490 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAA	B 8
AC 2489 	2430 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCCACC	B 8
CT 2429	BAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGG 	유 8
CTG 2369	2310 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCCACGCTGCTC	8 8
3 252	461 CAGIGGCCICIICGACGICIICCIACGCITCAIGTGCCACGACGACGCCGIGCGATCAG	₽ D
AG 2460 GG 2309	CCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCC	성 음
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230 CA 234	TGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGA- 	S B S
9CG 2251 	2192 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGTG	g 8

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                           3750 GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTTGAAAAAAA 3804
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3961 GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAA 4015
                                                                                   3901 CCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGGGGG
                                                                                                                                                                            3841 AGGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAAAGGTGTG
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                                                                                                                                                                                                                                                                                               3570 CCAGATTCGCCATTGTTCACCCCTCGCCCTGCCCTCCTTTGCCTTCCACCCCCACCATCC 3629
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                                                                                                                                                                                                                                                                                                                                            GGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATCC 3780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCCA 3509
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	QY 368 GCTGCTGGACGGGCCCCGCGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA 427	QY 308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGGAGGAGGAACGTGCTGGCCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTTCGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCTGGCGGGCTGGGCTGGGCTGGCGGGGGG	Oy 248 ACGGCCGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	Db 188 GGACCCGGCGGCTTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGC	OY 128 GCCGCTGGCGACGTTCGTGCGGCGCCTGGGGGCCCCAAGGCTGGTGCAGCGCGG 187	Qy 68 GCGCGCTCCCCGCTGCCGAGCCGTCCCCTGCTGCGCAGCCACTACCGCGAGGTGCT 127	QY 8 GCAGCGCTGCGTCCTGCGCACGTGGGAAGCCCTGGCCACCCCGGCACCCCGGGATGCC 67	Query Match 93.1%; Score 3559; DB 14; Length 4015; Best Local Similarity 94.6%; Pred. No. 0; Matches 3797; Conservative 0; Mismatches 0; Indels 218; Gaps 2;	SEQUENCE DESCRIPTION: SEQ ID NO: 224: US-10-054-611-224	/product= "	田	; INFORMATION FOR SEQ ID NO: 224: ; SEQUENCE CHARACTERISTICS: ; LENGTH: 4015 base pairs ; TYPE: nucleic acid	REFERENCE/DOCKET NUMBER: 015389-002930US TELECHMUNICATION INFORMATION: TELEPHONE: (415) 576-0200 TELEPAX: (415) 576-0300	; FILING DATE: 01-OCT-1996; ; ATTORNEY/AGENT INFORMATION: ; NAME: Apple, Randolph T. ; REGISTRATION NUMBER: 36,429	FILING DATE: 25-ARR-1997 PEPLICATION NUMBER: US 08/844,419 PILING DATE: 18-ARR-1997 APPLICATION NUMBER: US 08/724,643	PEPLICATION UNDER: 08/854,050 FILING DATE: <unknown> APPLICATION NUMBER: US 08/846,017</unknown>		OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
da VQ	Qy	g d	γ dg γ	AG AG	da Ao	Qy db	Qy Db	4a VQ	B 8	QQ QQ	Qy Db	Qy Db	₽ Q	מם	Оу	DЬ	d Q	
1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567	1448 CGCTTCGTGCGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA 	1388 CACAGACCCCGTGGCTGGTGCAGCTGCTCCGCCAGCAGCAGCAGCCCCTGGCAGGTGTA 1447	28 AGCCGGTGTCTGTGCCCGGGAQAAAGCCCCAGGGCTCTCTGGGGCCCCCGAGGAGAAGA	68 GTGCCCTAAGAGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 1	1208 GCCCAGCGCTACTGCCAAATGCGGCCCCTGTTTTCGGAGCTGCTTGGGAACCACGCGCA 1267)	48 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT 1	1088 GCCTTCCTTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147		GLACCAGGGGCCCCCATCCACATGGGGCACCACGTCCCTGGGACACGCCTTGTCC	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCACTCCCACCCA	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	788 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	728 721	66B	608 TCAGGCCCGGCCACCACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGCIL	548 GGCTCCCAGCTGCGCCTACCAGCTGTGCGGGCCGCTGTACCAGCTCGGCGCTGCCAC 607	488 CCGCGTGGGCACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTC 481 CCGCGTGGGCACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTT	421 CCTGCCCAACACGGTGACCCGACGCACTGCGGGGGAGCGGGGGGGG

	GGGGATTCGGCGGGACGGGCT 24	2369	2309	2307	2307	2307 CA 2340	2251	GCCGCCTGAGCTGTA	CCTGGACGATATCCACAGGGCCTGGCGACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC 2167.	CAGCGIGGTCAACTACGAGCGGGCGCGCGCCCCGGCCTCCTGGGCGCCTCTGTGCTGGG 2107	T 2047	CTTCATCCCCAAGCCTGACGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987	GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867	TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	A 1747 A 1740	GCTCTCGCTGCAGAGCTGAACGTGAAGATGAGCGTGCGGAGTGCGCTGCGCAG 1620 GAGCCCAGGGGTTGGCTGTTCCGGCCGCAGAGCACACGTCTGCGTGAGGAGATCCTGGC 1687
3510 GGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATCC 35	y 3450 GAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCCA 3509	Qy 3390 CATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCGAGCGA	Qy 3330 CACACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGAG	Qy 3270 GAGCAGACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	Qy 3210 ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCAGGCCAGGCCGA 3269	Qy 3150 GCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGAGCCAACCCGGC 3209 Db 3361 GCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGAGCCAACCCGGC 3420	Qy 3090 GACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCA 3149	QY 3030 CGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCAAGCT 3089	QY 2970 CTGCTACTCCATCCTGAAAACCCAAGAACGCAGGATGTCGCTGGGGGCCAAGGGCGCCGC 3029	2910 3121	QY 2850 CAAGATCCTCCTGCTGCAGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCA 2909	2790 TCA 3001 TCA	2730 CGG 2941 CGG	2670 GCF 2881 GCF	2610 GCC 2821 GCC	2550 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT	Db 2641 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTĞACĀĊĊTCĀĊĊĊĀĊĞĊĀĊĞĊĀÀĀĀĊ 2700 Qy 2490 CTTCCTCAGGACCCTGGTCCCAGGTGTCCCTGAGTATGGCTGCTGCTGAACTTGCGGAA 2549 Db 2701 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCTGGTGGTGAACTTGCGGAA 2760

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Query match: Best Local Similarity 94.6%; Pred. No. 0; Matches 3797; Conservative 0; Mismatches 0; Indels 218; Gaps 2; Matches 3797; Conservative 0; Mismatches 0; Indels 218; Gaps 2; Qy 8 GCAGCGCTGCCTGCTGCTGCTGCGCACGTGGGAAGCCCTGGCCCACCCCCGCGATGCC 67 Db 1 GCAGCGCTGCCCGCTGCTGCTGCTGCGGAAGCCCTGGCCCAGCCACCCCCGCGAGGTGCT 127 Qy 68 GCGCGTCCCCGCTGCCGAGCCGTGCGGAAGCCCTGCTGCTGCGAAGCTACCGCGAAGGTGCT 127 Db 61 GCGCGTCCCCGCTGCCGAGCCGTGCGCTCCTGCTGCGCAGCCACTACCGCGAAGGTGCT 120 Qy 128 GCGCTGGCCAACGTTCGTGCGGCGCCTTGGGGAGGCTGGCGAGGCTGCTGAGCGGGGGTGCT 120 Qy 128 GCGCTGGCCAACGTTTCGTGCGGGCCTTGGGGCCCCAGGGCTGGTGCGAGCGCGG 187 Db 121 GCGCTGGCCAACGTTTCGTGCGGCGCCTTGGGGCCCCAGGGCTGGTGCGAGCGCGG 180 Qy 189 GGACCCGGCGGCTTTCCGGCGGCGTGGGCCCAAGGGCTGGTGCGCGGGGGGGG	RESULT 11 US-10-105-963-1 US-10-105-963-1 Sequence 1, Application US/10105963 Publication No. US20030068818A1 Publication No. US20030068818A1 REPLICANT: Geron Corporation APPLICANT: Geron Corporation APPLICANT: Clark, A. John APPLICANTON: Transplantation and a Carbohydrate Determinant Selection System FIITLE OF INVENTION: Recombination FILE REFERENCE: 731/002 CURRENT FILING DATE: 2002-03-21 PRIOR APPLICATION NUMBER: US 60/277,811 PRIOR APPLICATION NU	Db 3721 GGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCACATAGGAATAGTCCATCC 3780 Qy 3570 CCAGATTCGCCATTGTTCACCCCTGCCCTGCCCTTTGCCTTCACCCCCACCACCACCCCACCATCC 3629
Db 1021 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAAGCTGCG Qy 1088 GCCTTCCTTCCTACTCAGCTCTCTGAGGCCCAAGCCTGACTGGCGACAAGGAGCAGCTGCG Qy 1081 GCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAAGCCTGACTGGCGCTCGAAGGCTCGTGGA Qy 1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCAGGGTTGCCCCGCCT	Qy 608 TCAGGCCCGGCCCCGCCACACGCTAGTGGAACGCGTTCTGGGATGCGAACGGGCCACACGGCCACACGCCTAGTGGAACGCGTCTGGGATGCGAACGGGCCCACACGGCCACACGCTAGTGGAACCCATAGCGTCAGGAACGCTAGTGGAACCCATAGCGTCAGGAAGGCCTAGTGGAACCCATAGCGTCAGGAAGGCCTAGGAGCCTGGGACCCCAGGGGTCCCACGGGGTCCCAGGGGTCCCAGGGGTCCCAGGGGTCCCAGGGGTCCCAGGGTTGCCAACGCCCAAGAGGCCCAAGACCCATAGCCGTCAGGAAGGCCCAAGAGGCCCAAGAGGCCCAAGACCCATAGCCGTCAGGAAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAAG	Qy 308 CCGAGTGCTGCAGAGGCTTGCGAGCGCGGAAGAACGTGCTGCGCTTCGGCTTCGG Db 301 CCGAGTGCTGCAGAGGCTTGTGCGAGCGCGGAGAAGAACGTGCTGGCCTTCGGCTTCGG Qy 368 GCTGCTGGACGGGGCCCCCGAGGCCTTCACCACCAGCGTGCGAGCTA Qy 468 CCTGCTGGACGGGGCCCCCGAGGCCTTCACCACCAGCGTGCGAGCTA Qy 428 CCTGCCCAACACGGTGACCGACGACCACCGAGGCGTGCGAGCTA Qy 428 CCTGCCCAACACGGTGACCGACGACGAGCGGAGCGTGCGGGGCTGCTGCG Db 421 CCTGCCCAACACGGTGACCGACGCACTGCGGGGAGCGTGCGGGGCTTCCTGCTGCG Qy 488 CCGCGTGGGCGACGACGCACTGCGGGAGCGGGGGCGCTCTTTGTGCTGCTGCT Qy 481 CCGCGTGGGCGACGACGTGCTGCTGCTGCTGCGCGCTGCTGCTGCTGCTGCTGCT

Qy 2308	Qy 2308 Db 2401	Qy 2308 рь 2341	Qy 2252 Db 2281	Qy 2192 Db 2221	Qy 2168 Db 2161	Qy 2108 Db 2101	Qy 2048 Db 2041	QY 1988 Db 1981	. Qy 1928 Db 1921	Qy 1868 Db 1861	QY 1808	Qy 1748 Db 1741	Qy 1688 Db 1681	Qy 1628 Db 1621	Qy 1568	Qy 1508 Db 1501	Qy 14 Db 14	Db 13
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	GGATGCCGTCGTCATCGAC	AGACCTCCAGCCGTACATO	CCAGAAGGCCGCCCATGG	GGTCATCGCCAGCATCATO	CTTTGTCAAGGTGGATGTG	CAGGGCTGGCGCACCTT AGGGCCTGGCGCACCTT		AGAAAAGAGGGCCGAGCG	TGACGGGCTGCGGCCGAT	;gcagcatceggaagccag cagcatceggaagccag	CAAGTTGCAAAGCATTGGAATCAGACAGCACTT CAAGTTGCAAAGCATTGGAATCAGACAGCACTT	GTTTCAAAAGAACAGGCT 	GCTGATGAGTGTGTACGT	3CTGTGTTCCGGCCGCAGA 	agctgacgtggaagatgag agctgacgtggaagatgag	ICCTCAGGAACACCAAGAA 	CCTGCCTGCGCCGGCTGGT	SCTGGTGCAGCTGCTCCC
	GACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAG	CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA	TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGA 	GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAACCCCAGAACACGTACTGCGTGCG	CCTGAGCTGTACATCCCCA	CCTGGACGATTATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGGCCCAGGACCC	CAGCGTGCTCAACTACGAGCGGGCGCGGGCGCCCCGGCCTCCTGGGCGCCTCTGTGCTGGGCGCGCGTGTGTGTGTGGGGGG	CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT	CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC	GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCGGCC	CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC	TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG	CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGTCTTTCTT	GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC	GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCAG 	CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 	CGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA	
		2307 ETGCAGGA 2400	AAGA 2307 AAGAGCCA 2340	TGCGTGCG 2251	CATCCCCA 2191 ATCCCCA 2220	CAGGACCC 2167	GTGCTGGG 2107 GTGCTGGG 2100	GCACTGTT 2047 CACTGTT 2040	GTGGGAGC 1987 GTGGGAGC 1980	AGACTCCG 1927 AGACTCCG 1920	GAGCTGTC 1867 GAGCTGTC 1860	GTCTGGAG 1807 	TTCTTTA 1747	ATCCTGGC 1687	CTGCGCAG 1627	CATGCCAA 1567 CATGCCAA 1560	TCCAGGCA 1507	 CAGGTGTA 1440
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3330 CACACCCAGGCCCGCA 3541 CACACCCAGGCCCGCA	3270 GAGCAGACACCAGCAG 3481 GAGCAGACCACCAGCAG	3210 ACTGCCCTCAGACTTC	3150 GCTGAGTCGGAAGCTC	3090 GACTCGACACCGTGTC 3301 GACTCGACACCGTGTC	3030 cdgcccrcrgcccrcc	1 0	2910 TCAGCAAGTTTGGAAG		90		70	2610 GCCGGCCCACGGCCTA	2550 GACAGTGGTGAACTTC	01	41	81	10 21	61
CACACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGAG	GAGCAGACACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCAGGCCGG	GCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCCAACCCGGC	GACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCA	CGGCCCTCTGCCCTCCGAGGCCGTGCACTGCCTGTGCCACCAAGCATTCCTGCTCAAGCT	CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGATGTCGCTGGGGGCCAAGGGCGCCGC	TCAGCAAGTTTGGAAGACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCT	CAAGATCTTCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCA	TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA	CGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG	GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCG	GCCGGCCCACGGCCTATTCCCCCTGGTGCGGCCTGCTGCTGATACCCGGACCCTGGACGT	GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT	CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGCGTGGTGGTGAACTTGCGGAACTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGGC	GTTCCTGCGTTTGGTGGATGATTCTTGTTGGTGACACCTCACCTCACCCACGCGAAAAC	CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT 	CAAGTICTACGTCCAGTGCCAGGGATCCCGCAGGGTCCATCCTCTCCACGCTGCTCTG	61 CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGGG
.GTGAGTGTTTGGCCGAG GTGAGTGTTTGGCCGAG	TCCCAGGGAGGGAGG TCCCAGGGAGGGAGG	CACCCGCCACAGCCACAGCCACAGCCACAGCCA	TGGAGGCCGCAGCCAA TGGAGGCCGCAGCCAA	CACTCAGGACAGCCA CACTCAGGACAGCCCA	ACCAAGCATTCCTGCT	CGCTGGGGGCCAAGGG CGCTGGGGGCCAAGGG	FICATCTCTGACACGGC	IGTGTGCTGCAGCTCCCA	CAGACGGTGTGCACCAA(TTTGGGGTCTTGCGGCTV	AGAGCCAGTCTCACCTT	CTGGATACCCGGACCCT	GETGGCACGGCTTTTGT GTGGCACGGCTTTTGT	GGCTGCGTGGTGAACTT GGCTGCGTGGTGAACTT	CCTCACCTCACCCACGC	GCGGGGATTCGGCGGG GCGGGGATTCGGCGGG	TCCATCCTCTCCACGC	CACCACGCCGTGCGCAI
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Publication No. US20030096344A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                     PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/912,951

FILING DATE: «Unknown:
APPLICATION NUMBER: US 08/854,050

FILING DATE: 09-MAY-1997

APPLICATION NUMBER: US 08/851,843

FILING DATE: 06-MAY-1997

APPLICATION NUMBER: US 08/846,017

PILING DATE: 25-APR-1997

APPLICATION NUMBER: US 08/844,419

FILING DATE: 18-APR-1997

APPLICATION NUMBER: US 08/844,419
                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Andrews, william H.
TITLE OF INVENTION: HUMAN TELOMERASE CATALYTIC SUBUNIT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3750 GAGGTGCTGTGGGAGTAAAATACTGAATATTATGAGTTTTTCAGTTTTTGAAAAAAA 3804
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3961 GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAA 4015
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                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/10/044,692 FILING DATE: 11-Jan-2002 CLASSIFICATION: «Unknown»
                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: San Francisco
STATE: California
COUNTRY: United States of America
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   APPLICATION NUMBER:
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Nakamura, Toru
Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin
Andrews, William H
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US 08/724,643
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear MOLECULE TYPE: cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE DESCRIPTION: SEQ ID NO: 1:
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TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
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                                                                          608 TCAGGCCCGGCCACCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667
                                                                                                                                           541
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LOCATION: 56..3454
OTHER INFORMATION: /product= "hTRT"
/note= "human telomerase reverse
transcriptase (hTRT) catalytic protein
component"
                        TCAGGCCCGGCCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC
                                                                                                                                           GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC
                                                                                                                                                                                    GETTECEAGETGEGECTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCCGGCGCTGCCAC
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REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002600US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: nucleic acid
STRANDEDNESS: single
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761	אס ממ	1688 CARGITCCTGCACTGGCTGATGACTGTCTACGTCGTCCAGCTCCTCAGGTCTTCTTTTA 1747
2490 CTTCCTCAGAACCTGGTCCGAGGTCTCCTGAGTATGGCTGCGTGACTTGCGGAA [\$ \$ \$	28 GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC
430 GC 641 GC	Ag Ag	CTGCGCAG 162 CTGCGCAG 162
2370 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT	dg VQ	508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1
2310 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTG 2369	Qy dd	1448 GGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCAGGCCTCTGGGGCTCCAGGCA 1507
61 (2	B &	1388 CACAGACCCCCGTCGCCTGGTGCAGCTCCCGCCAGCACGAGCACCCCCTGGCAGGTGTA 1447
01 08 - G. 19) B &	1328 AGCCGGTGTCTGTGCCCGGGAGAÀAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGAGGAGGAGGAGGAGGAGGAG
2308	P &	1268 GTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCGGCTGCGAGCTGCCGGTCACCCCAGC 1327
81 52	Q & Q	1208 GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267
2192 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAACCCCAGAACACGTACTGCGTGCG	da da	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCGCCT 1207
61 68 a—a	da Vo	1088 GCCCTCCTTCCTAGCTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147
0 0 0	Db.	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087
ი—ი	Qy dd	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027
ი—ი	אם אס	908 CACCTCTTTGGAGGGTGCGCTCTCGGCACGCGACTCCCACCCA
2 28	da da	B48 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGC 907
იი	עס קס	788 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847
1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 	QY da	728 GAGGCGCGGGGGGAGTGCCAAGCCGAAGTCTGCCCTAGAGACGCCCAAGACGTGGCGC 787
741		668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727

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CCCTGTACACAGGCGAGGACCCTGCACCTGGGATGGGGGTCCCTGTGGGGTCAAATTGGGGG 3960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGGGCT 3660
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                                                                                                      CCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATTGGGGG 3749
                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAGATTCGCCATTGTTCACCCCTCGCCCTGCCCTTTTGCCTTTCCACCCCCACCATCC 3840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATCC
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; SEQUENCE DESCRIPTION: SEQ ID NO: 1: US-10-044-539-1
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Publication No. US20030100093A1
                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Cech,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/10/044,539
FILING DATE: 11-Jan-2002
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/912,951
FILING DATE: -UNKNOWN
APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-MAX-1997
APPLICATION NUMBER: US 08/851,843
FILING DATE: 06-MAX-1997
APPLICATION NUMBER: US 08/864,017
FILING DATE: 25-APR-1997
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nakamura, Toru
Chapman, Karen B.
Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin
Andrews, William H.
TITLE OF INVENTION: HUMAN TELOMERASE CATALYTIC SUBUNIT:
                                                                                                                                                                                                          TOPOLOGY: line
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER: 015389-002600US TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 335
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3961 GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAA 4015
                                      LOCATION: 56..3454
OTHER INFORMATION: /product= "hTRT"
/note= "human telomerase reverse
transcriptase (hTRT) catalytic protein
component"
                                                                                                                                                                                                                              LENGTH: 4015 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Apple, Randolph T. REGISTRATION NUMBER: 36,4
                                                                                                                                       NAME/KEY: CDS
LOCATION: 56.
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                                                                                                                                                                                                                                                                                                                                                                              TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TY: San Francisco
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QY 848 GCGTGGACCGAGTGATCGTTGTTTCTGTGTTGTGTCACCTGCCAGACCCGCCGAAGAAGC	Oy 68 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCTGGGCCTGCCAGGCCCGGGTGCGAG 727	Db 421 CCTGCCAACACGGTGACCACCACACGCTAGTGACGGAGGGAG	ACGGCCGCCCCCGCCGCCCCCCCTCCTTCCGCCAGTN	Query Match Best Local Similarity 94.6%; Pred. No. 0; Matches 3797; Conservative 0; Mismatches 0; Indels 218; Gaps 2; Qy BCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCACCCCCGGATGCC 67
	741 741 808 801 868 861 861	1561 1561 1628 1621 1688	Oy 1328 AGCCGTTGTGCCCGAGAGAAGCCCCAGGGCTCTGTGCGGCCCCGAGGAGAGAGA	

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970 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGG	2910 TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGCGCCTCCCT 2969	2850 CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCA 2909	2790 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 2849	2730 CGGCTTCAAGGCTGGGAACATGCGTCGCAAACTCTTTTGGGGTCTTGGGGCTGAAGTG 2789	2670 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCG 2729	2610 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGATACCCGGACCCTGGAGGT 2669	2550 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 2609	2490 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGATCTTGCGGAA 2549	2430 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCCCACGCGAAAAC 2489	2370 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT 2429	2310 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGCTTCCATCCTCCACGCTGCTCTG 2369	2308	2308 2307 2308 2307 2308 2307	y 2308 2307 b 2341 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 2400	2252 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGA 2307	Y 2192 GGACAGGCTCACGGAGGTCATCGCCAGCATCAAACCCCCAGAACACGTACTGCGTGCG	y 2168 GCCGCCTGAGCTGTA	2101 CCTGGACGATATCCACAGGGCCTGGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC 2160
; FRIOK FILING DAIS: 2005-03-11; NUMBER OF SEQ ID NOS: 5 ; SOFTWARE: PatentIn version 3.0 ; SEQ ID NO 1	; CURRENT APPLICATION NUMBER: US/10/385,882 ; CURRENT FILING DATE: 003-03-11 ; PRIOR APPLICATION NUMBER: 60/363,129 . BOTOR ETIING DATE: 2002-03-11	CNEC	FUBLICATION NO. US20030232409A1 FEBRURAL INFORMATION: APPLICANT: RECENTS OF THE UNIVERSITY OF MINNESOTA APPLICANT: FARRIS, James APPLICANT: FARRIS, James	RESULT 14 US-10-385-882-1 ; Sequence 1, Application US/10385882	Oy 3750 GAGGTGCTGTGGGAGTAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAA 3804 Db 3961 GAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAA 4015	3690 CCCTGTACACAGGCCAGGACCCTGCACCTGCATGGGGTCCCTGTGGGTCAAATTC	QY 3630 AGGTGGAGACCCTGAGAAGGACCCTGGGAACTTTGGAGTGACCAAAGGTGTG 3689	3570 CCAGATTCGCCATTGTTCACCCCTCGCCCTCGCCCTCCTTTGCCTTCCACCCCCACCATCC	3510 Q 3721 Q	Qy 3450 GAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCCA 3509	0-0 0-4	QY 3330 CACACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGTTTGGCCGAGGCCTG 3389	Qy 3270 GAGCAGACACCAGCAGCCCTGTCACGCCGGGTCTACGTCCCAGGGAGGG	Db 3421 ACTGCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCGCCCACAGGCGAGCGA	3150 GCTGAGTCGGAGGCTCCCGGGGACGCCGACCCTGGAGGCCGAGCCAGCC	2y 3090 GACTCGACACCCTGCCACTCCTGCGACTCACGACTCAGGACAGCCCAGACGCA 3149	3241 C	3181 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGGCCAAGGGCCCCGC

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1993 CGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTTCAGCG	Qy	913 CTTTGGAGGGTGCGCTCTCTGGCACGCCACTCCCACCCATCCGTGGGCCGCCAGCACC 97
1933 TCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGCCAGAA	od da	QY 853 GACCGAGTGACCGTGGTTTCTGTGTGTGTGTGACCAGACCAGCCAG
1873 CAGAGGTCAGGCATCGGGAAGCCAGGCCCGCCTTGACGTCCAGACTCCGGTTCA	Oy Db	QY 793 CTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGACGCGTG 852
807	Q Qy	QY 733 GCGGGGGCAGTGCCAGCCGAAGTCTGCCCTAGAGAGGGCCCAAGGGGTGGCGCTGCCC 792
7 3	Qy dd	QY 673 ACCATAGGGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAGGAGGC 732
7	QQ Qy	Qy 613 CCCGGCCCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGATGCGAACGGCCTGGA 672
33	dd Vo	Qy 553 CCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGTGTACCAGGCTGGGGCTGCCACTCAGG 612
1573 CGCTGCAGGAGCTGAACGTGGAAATGAGCGTGCGGAAATGAGCGTTGGCTTGGCTGACAAGCC 	5 A	Qy 493 TGGGCGACGIGCTGGTTCACCTGCTGGCACGCTGCGCGCGCTCTTTGTGCTGGTGGCTC 552
07	p &	Oy 433 CCAACACGGTGACCGACGCACTGCGGGGGGAGCGGGGGGGG
447	5 B &	Qy 373 TGGACGGGGGGGGGGGGGGCCCCCCGAGGCCTTCACCAGCGAGCG
387	dg Að	Qy 313 TGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTTGGCCTTCGGCCTTCGCGCTGC 372
27	. B &	Qy 253 CGCCCCCCCCCCCCCCCCCCCCCCCCCCCCAGGTGTCCCTGAAGGAGGTGGTGGTGGCCCGAG 312
67	A dd	Qy 193 CGGCGGCTTTCCGCGCGCTGGTGGCCAGTGCCTGGTGCGTGC
13 07	dg VQ	Qy 133 TGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGGGGGCTGGTGCAGCGCGGGACC 192
7 3	מם מם	Qy 73 CTCCCCGCTGCCGAGGCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCTGCCGC 132
1093 CCTTCCTACTCAGCTCTGTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGAGACCA	Oy Db	Qy 13 GCTGCGTCCTGCGCACGTGGGAAGCCCTGGCCCCCGGCAACCCCCGGGATGCCGCGC 72
1033 TGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCGGCCCT	Qy Db	Query Match 93.0%; Score 3557; DB 15; Length 4027; Best Local Similarity 94.5%; Pred. No. 0; Matches 3798; Conservative 0; Mismatches 5; Indels 218; Gaps 2;
967 ACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCCCCCGG		; FEATURE: ; OTHER INFORMATION: Nucleotide sequence encoding telomerase reverse transcriptase US-10-385-882-1
907 CTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	 D	; LENGTH: 4027 ; TYPE: DNA ; ORGANISM: ARTIFICIAL

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2795 GCCTGTTTCTGGAFTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTACAAGA 2854	2047 TSCTCAACTACCAGGGCCGGCGCGCGCGCGCGCGCGCGCGCG	TGCTCAACTACGAGCGGGCGGCGGCCCCCGGCCTCCTGGGCCCTCTGTGCTGGGCCTGG
RESULT 15 US-09-843-676-173 JS-equence 173, Application US/09843676 Patent No. US20020164786A1 GENERAL INFORMATION: APPLICANT: Gech. Thomas R. Lingner, Joachim Nakamura, Toru	2975 ACTICANTCINAMACICAMANACIAMANACIAMANACIAMANAAAAAAAAAA	Qy 2915 AAGITTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCTC

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; SEQUENCE DESCRIPTION: SEQ ID NO: 173:
US-09-843-676-173
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
ATTORNEY/AGENT INFORMATION:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: cDNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 22
CORRESPONDENCE ADDRESS:
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TITLE OF INVENTION: No. US20020164786Alel Telomerase
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                                  GGACCCGGCGCTTTCCGCGCGCGNTGGTGGCCCANTGCNTGGTGTGCGTGCCCTGGGANGN 240
                                                                                     GCCGCTGGCCACGTTCGTGCGGCGCCCTGGGGCCCCAGGGCTGGCGGCTGCAGCGCGGC180
                                                                                                                            GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCAACTACCGCGAGGTGCT 127
                                                                                                                                                                                                                                                            GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCCTGGCCCCGGCCACCCCGCGATGCC 60
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OTHER INFORMATION: /note= "preliminary sequence for human TRT cDNA insert of plasmid pGRN121"
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REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002930US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/08/854,050 FILING DATE: 09-WAY-1997 APPLICATION NUMBER: US 08/846,017 FILING DATE: 25-APR-1997 APPLICATION NUMBER: US 08/844,419 FILING DATE: 18-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/09/843,676
FILING DATE: 26-Apr-2001
CLASSIFICATION: 536
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STRANDEDNESS: single
TOPOLOGY: linear
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Morin, Gregg B.
Harley, Calvin
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Pred. No. 0;
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                                                            1267 AGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGGCTGCGAGCTGCGGTCACCCCAG 1326
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1686 GCCAAGTTCCTGCACTGGCTGATGAGTGTTACGTCGTCGAGCTGCTCAAGTCTTCTTT 1745 1674 GCCAAGTTCCTGCACCTGGCTGATGAGTGTTACGTCGTCAAGTCTTCTTT 1733 1746 TATGTCACGGAGACCACGTTTCAAAACAACAGCCTTTTTTCTACCGGAAGAGTCTTTCTT	1327 CAGCCGGTGTCTGTGCCCGGGACAAGCCCCAGGGCTCTGTGGCGCCCCGAGGAGAGGAGAGAGA
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2548 ANACASTICGICIPANAMANCAGAGGCCTGGGTTGAGGCTTTTTCAG 2807 2754 ANACASTICGCTGAACTTCCCTGTAGAAGACGAGGCCTTGGGTTGACGCGCTTTTTCAG 2807 2808 ATGCCGGCCCACGGCCTATTCCCCTGTGTGGTGGGCTGGATGACCGGACCCTGGAG 2813 2808 ATGCCGGCCCACGGCCTATTCCCCTGTGTGGGGCTGGATGCCGGACCCTGGAG 2867 2814 ATGCCGGCCACGGCCTATTCCCCTGTGTGGGGCTGGATGCCGGACCCTGGAG 2873 2868 GTGCAGAGCGACTACTCCAACTTTGCCCTGGATCCTCAGACCAGCCTTCAAC 293 2728 CGCGGCTTCAAGGCTGGAAGAACATGCGTGCAAACTCCTTTGGGGTCTGACCTCAACATC 2874 GTGCAGAGGCTTCTAAGGCTGGAACATGCGTGCAAACTCCTTTGGGGTCTGACCTCAACATC 2875 CGCGGCTTCAAGGCTGGAAGAACATGCGTGCAAACATCCTTTTGGGGTCTGCACCTCAACATC 2876 CTGCACAAGCCTGTTTCTGAATTTGCAGGTGAACAGCCTCCAACAACTCCTTTGGGGTCTGCACCTCCATC 2877 CTTCACAAGCCTGTTTCTGAATTTTGCAGGTTGAACAGCGTGTGCACCAACATC 2877 CTTCACAAGCCTGTTTCTGAATTTTGCAGGTTGAACAGCGTTGTGCACCTACATC 2877 CTTCACAAGCCTTTTTCTGAATTTTTCCTGCAGTTGAACAGCGTCTCCATTT 2878 TACAAAATCCTCCTGTGTAAGACCCAACATTTTTTCCTGCGGTTGAACAGCGTCTCCATTT 2871 CATCAGCCAAGATCTCTGAAAGCCAAGATTTTTCCTGCGGTTAACAGCGTCTCCATTT 2872 CTTCACAAGCCTTTTGAAAACCCCAACATTTTTTCCTGCGGTTGAACACGGCCCTCC 2877 CTTCTGTAACACCCTCTGAAGACCCAACATTTTTTCCTGCGGTTGAACACGGCCCTCC 2873 CTTCACAACATCTTTGAAAAACCCCAACATTTTTTCCTGGGGTTGAACACGTCCCAACATTT 2874 GTCGCCCTCTGACCCTTCCAAGACCCTGAAGAACCCAACATTTTTTCCTGGGGTTCAACATTTCTGTGAGGCCCCAACATTTTTTCCTGGGGTTCAACATTTCTTCTAACACCCTCCAAGAACCCTCCAACATTTTTTCCTGGGGTTCAACATTTCTTCTAACACCAACATTTTTTCCTGGGGTTCAACATTTCTTCTAACACCAACATTTTTTCCTGGGGTTCAACATTTCTTCTAACACCAACATTTTTTCCTGGGGTTCAACATTTCTTCTAACACCAACATTTCTTCTTAACACCAACATTTTTT	394 GANAACAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCCGAGGCCTCATCGAGGCCCTCCACGCCGTGCAATGAGGCCCACGCCACGCCACCACGCCATCCACGCCAATCCACGCCAATCCACGCCAATCCACGCCAATCCACGCCTCCAACGCCTCCAACGCCTCCAACGCCTCCAACGCCTCCAACGCCTCCAACGCCTCCAACGCTCCTCCAACGCTCCTCCAACGCTCCTCCAACGCTCCTCCAACGCTCCTCCAACGCTCCTCCAACGCTGCTCCAACGCTGCTCCAACGCTGCTCCAACGCTGCTCCAACGCTGCTCCAACGCTGCTTCCAACGCTGCTCCAACGCTGTTTCGGCCGGAATTCCGCCGGAACAAGCCTGTTTTGCGGCGGAATTCCGCCGGAAACAAAGCTGTTTTGCGGCGGAAACAAAGCTGTTTTGCGGCGGAAACAAGCTGTTTTGCGGCGGAAACAAGCTGTTTTGCGGCGGAAACAAGCTGTTTGCGGGGGAATTCCTCCTCCGGGGAACAAGCTTTTGCTGGTGAACAAGCTTTTGCGGGGGAAACAAGCTTTTGCTGGGGGTGAACAAGCTTTGCGGGGAAACAAGCTTTTGCGGGGTGGTGAACCTTGCGGGAAACAAGCTTTCCTTGCGGGGTGAACCTTGCGGGAAACAAGCTTTCCTTGAGGAACCTCCACCCCAACGCGAAAAGAACATGCTCCTCAAGGAACCTTGCGGGAAACAAGCTTTCCTTGAGGAACCTTGCGGGTGAACCTTGCGGGGAACCTTGCGGGTGGTGAACCTTGCGGGGTGGTGAACCTTGCGGGGAACCTTGCGGGGAACCTTGCGGGTGGTGAACCTTGCGGGGAACCTTGCGGGGAACCTTGCGGGTGGTGAACCTTGCGGGGAACCTTGCGGGGAACCTTGCGGGTGGTGAACCTTGCGGGGAACCTTGCGGGGAACCTTGCGGGTGGTGAACCTTGCGGGGAACCTTGCGGGGAAACAAGCTTGCTGAGGAACCTTGCGGGTGGTGAACCTTGCGGGGAAACAAGCTTCCTCAAGGAACCTTGCGGGGAAACAAGCTTCCTCAAGGAACCTTGCGGGGAAACAAGCTTGCGGGTGGTGAACCTTGCGGGGAAACAAGAAGAAGAAGAAGAAGAAGAAGAAGAAG

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CAGGTGGAGACCCTGAGAAGGACCCTGGGGAGCTCTGGGAATTTGGAGTGACCAAAGGTG	3628	Ş
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Search completed: March 1, 2004, 23:54:03 Job time: 895.593 secs

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Post-processing: Minimum Match 0%
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

RESULT 1 US-09-424-686F-10 US-09-424-686F-10 ; Sequence 10, Application US/09424686F ; GENERAL INFORMATION: APPLICANT: Hagen, Gustav APPLICANT: Siegmund, Hans-Ulrich APPLICANT: Weichel, Walter APPLICANT: Weichel, Walter APPLICANT: Zubov, Dmitry ITILE OF INVENTION: Human Catalytic Telomerase Sub-Unit ITILE OF INVENTION: Use ITILE OF INVENTION UBBER: US/09/424,686F CURRENT FILING DATE: 1999-11-29 FRIOR APPLICATION NUMBER: PCT/EP98/03468 PRIOR APPLICATION NUMBER: PCT/EP98/03468 PRIOR FILING DATE: 1998-06-09 NUMBER OF SEQ ID NOS: 32 SOFTWARE: Microsoft Word	4 - 5.84 - 6.92 - 4.4 - 5.94 - 6.92 - 4.4 - 5.94 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 4.4 - 6.92 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 - 6.2 -	\$ Query Score Match Length DB ID 10.00 3824 10.00 3824 20 US-09-42 3767.8 98.8 3860 20 US-09-42 3767.8 98.5 3855 13 US-08-91
and its Diagnostic and Therap	Sequence 12, App Sequence 4, Appli Sequence 1, Appli Sequence 1, Appli Sequence 2, Appli Sequence 343, App Sequence 343, App Sequence 317, App Sequence 117, App Sequence 117, App Sequence 1, Appli Sequence 224, App Sequence 455, App Sequence 455, App Sequence 455, App Sequence 1, Appli	criptio
Qy 541 TGCTGGTGGCTCCAGCTGCGCCTACCAGGTGTGCGGCCGCTGTACCAGCTCGGCG 600	Query Match Best Local Similarity 100.0%; Score 3824; DB 20; Length 3824; Best Local Similarity 100.0%; Pred No. 0; Matches 3824; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Matches 3824; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 1 GITTCNAGGARGGCTGCCCGCTGCTGCGCAAGGACCTGCCCCCGGCCAAGCCACCCCCG 60 1 GITTCNAGGARGACGCTCCCCGCTGCCGAAGCCTTCCCTGCTGCAAGAACCCTTACCGCG 120 Db 1 GATGCCGCGCGCGCTCCCCACGTTGCGAAGCCCTGCGGAAGCCCTACCGCG 120 Cy 61 CGATGCCGCGCGCGCGCCCCCCGCTGCCGAAGCCCTGCGGGCCCAAGCCACTACCGCG 120 Db 61 CGATGCCGCGCGCGCGCGCGCGCGCCCCGGGGCCCTGGGGCCCCAGGGCCTGAGCCACTACCGCG 120 Cy 121 AGGTGCTGCGGCTGGCCAAGTTTCCGCGGGCCCTGGGGCCCAGGGCCTGAGGCCCAGGCCCTGGGGCCCAAGCCCTTGCGCCAGCCCCTGCGCCCCCCCC	; LENGTH: 3824 ; TYPE: DNA ; ORGANISM: Human ; ORGANISM: Human ; PEATURE: ; NAME/KEY: CDS ; LOCATION: (1)(3824) ; OTHER INFORMATION: Nucleotides 2184 to 2219 and 2345 to 2526 of SEQ ID NO. 1 were ; OTHER INFORMATION: leted.

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                APPLICANT: Wick, Maresa
APPLICANT: Zubov, Dmitry
TITLE OF INVENTION: Human Catalytic Telomerase Sub-Unit and its Diagnostic and Therap
TITLE OF INVENTION: Use
TILE FERENCE: Bayer 10,203
CURRENT APPLICATION NUMBER: US/09/424,686F
CURRENT FILLING DATE: 1999-11-29
PRIOR APPLICATION NUMBER: PCT/EP98/03468
PRIOR FILING DATE: 1999-06-09
RIOR FILING DATE: 1999-08-08
PRIOR FILING DATE: 1999-08-08-09
PRIOR FILING DATE: 1998-08-08-09
PRIOR FILING DATE: 1998-08-09
PRIOR FILING DATE: 1998-08-08-09
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PRIOR FILING DATE: 1998-08-09
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GENERAL INFORMATION:
APPLICANT: Hagen, Gustav
APPLICANT: Siegmund, Hans-Ulrich
APPLICANT: Weichel, Walter
APPLICANT: Weichel, Walter
APPLICANT: Wick, Maresa
APPLICANT: Zubov, Dmitry
    TYPE: DNA
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Matches 3824
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FEATURE:
NAME/KEY: CDS
LOCATION: (1)...(3860)
OTHER INFORMATION: Nucleotides 2345 to 2526 of SEQ ID NO 1 were deleted to provide OTHER INFORMATION: this sequence.
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GCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCG
                                                                                   GTGGCGCTGCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCCG
                                                                                                                        greececreccreaecceeaeceeaceccerreeccaeceerccreecccaeccee
                                                                                                                                                                                                           GIGCGAGGAGGCGCGGGCAGIGCCAGCCGAAGTCIGCCGTTGCCCAAGAGGCCCAGGC
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GCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCG
                                                                                                                                                                         GTGCGAGGAGGCGCGGGGCAGTGCCAGCCGAAGTCTGCCCGATGCCCAAGAGGCCCAAGGC
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Qy 1921 Db 1921 Qy 1981	Qy 1801 Db 1801 Qy 1861 Db 1861	QY 1681 Db 1681 QY 1741 Db 1741	Qy 1561 Db 1561 Qy 1621 Db 1621	Db 1441 Qy 1501 Db 1501			Qy 1141 Db 1141 Qy 1201 Db 1201	Qy 1021 Db 1021 Qy 1081 Db 1081	Db 901 Qy 961 Db 961
ACTCCGCTTCATCCCC	TCTGGAGCAAGTTGCAA	TCCTGGCCAAGTTCCTG	ATGCCAAGCTCTCGCTG	AGGTGTACGGCTTCGTG CCAGGCACAACGACGC	CCCCAGCAGCCGGTGTC AGGAGGACACAGACCCC	ACGCGCAGTGCCCTAC	TCGTGGAGACCATCTTT,	CTTGTCCCCGGTGTAC	AAGAAGCCACCTCTTTG
GACTCCGCTTCATCCCCAAGCCTGACGGCTGCGGCCGATTGTGAACATGGACTACGTCG	TCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGG	TCCTGGCCAAGITCCTGCACTGGCTGATGAGITGTGTACGTCGAGCTGCTCAGGICTT	ATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGACTGCGCTTGGGACTGCCGCTTGGGACTGCGCAGGACTGCGCTTGGCAGAGATGAGCGTGCGGACTGCGCTTGGGAAGAATGAGCGTGCGGACTGCGCTTGCGCTTGCGCTTGCGCTTGCGCTTGCGCTGAGGAGATGAGCAGAGCCGTCTGCGTGAGGAGAATGAGCAGCCGTCTGCGTGAGGAGAATGCGCAGGAGCCCCAGGGGTTGGCTGTGTGTG		CCCCAGCAGCAGCCGTGTCTGTGCCCGGAGAAAGCCCCCAAGCATCTGTTGTGGCGCCCCGAGAGAAGCCCCCAAGCAAG	ACGCGCAGTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCA	TOGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGC TCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCCGAGGTTGC TCGTGGAGACCATCTTTCTGGGTTCCAGGCCCCTGGATGCCAGGGACCTCCCCGAGGTTGC CCGGCCTGCCCAGCGCTACTGCAAATGCGGCCCCTGTTTCTGAGAGCTGCTTGGGAACC [CTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGC CTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGC CTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGC AGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGC	
CGATTGTGAACATGGAC	ACTTGAAGAGGGTGCAG	PACGICGICGAGCIGCTCAGGIC	ATGAGCGTGCGGGACTGC		AGGCTCTGTGGCGCCCCCCCCCCCCCCCCCCCCCCCCCC	ACTGCCGCTGCGAGCT	NTGCCAGGGACTCCCCGC	TCTACTCCTCAGGCGAC	ACGCGCCACTCCCACCCA CGCGCCACTCCCACCCA CGCCACCACGTCCCTGG
TACGTCG 1980	CAGCTGCGGG 1860 CAGCTGCGGG 1860 CTGACGTCCA 1920	AGGTCTT 1740 	GCTTGGC 1620	 			AGGTTGC 1200	AAGGAGC 1080 AAGGAGC 1080 CCGGAGGC 1140 CCGGAGGC 1140 CCGGAGGC 1140	 TCCGTGG 960 GACACGC 1020
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TCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGATGTCGCTGGGGGCCAAGGG TCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGATGTCGCTGGGGGCCAAGGG TCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGATGTCGCTGGGGGCCAAGGG GCCGCCGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCT	ATCTACAGARCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCA	ARCIGOGUI (MANGELIGGENGHALA IGGICANA ICII IGGILIA IGGI	CAGATGCCGGCCCACGGCCTATTCCCCCTGGTGCGGCCTGCTGCTGCATACCCCGGACCCTG GAGGTGCAGAGCGACTACTCCAGCTATGCCCCGGACCCTCCATCAGAGCCAGTCTCACCTTC [AAAACCTTCCTCAGGAACCTTGGTCGAGGAGGTCCCTGAGTATTGGCTGGTGGTGAACTTG CGGAAGACCAGTGGTGAACCTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACCACGGCTTTTGTT	CICIECAGCCIGIECIACEGECAACAIGEAGAACAAGCIGIIIGEGEGEGAAIIICEGEGEGEACACCCACECE GEGCTECTCCTECGTTTGGTEGATGATTTCTTGTTGGTGACACCTCACCCCACECE GEGCTCCTCCTECGTTTGGTEGATGATTTCTTGTTGGTGACACCTCACCT	AGAGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTG			TGGGAGCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGG CACTGTTCAGCGTGCTCAACTACGAGCGGGCGCGGCGC
GAACGCAGGGATGTCGCT	CAGGITTCACGCATGTGT	GGGGCAAACTCTTTGGGGGGAACACCTCCAGAC		THE CONTROL OF THE CO	GAACAAGCTGTTIGCGG	GATCCCGCAGGGCTCCAI	GCCATCATCAAACCC GCCCCATGAGCACGTC GCCGCCCATGGGCACGTC	TGGCGCACCTTCGTGCTC AAGGTGATCATCAAAACCC	AGGGCGAGCGTCTCACC AGGCCGGCCTC
GGGGGCCAAGGGC 302			TACCCGGACCCTG CAGTCTCACCTTC	CACGGCTTTTGTT CACGGCTTTTGTT CACGGCTTTTGTT	HAIT CHECHEGAC COTCACCCACGCG	CCTCTCCACGCTG		CAGARCACGTACT	TCGAGGGTGAAGGCTCTCTC

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                                                                                                                APPLICANT: Lingner, Joachim
APPLICANT: Nakamura, Toru
APPLICANT: Chapman, Karen B.
APPLICANT: Morin, Gregg B.
APPLICANT: Harley, Calvin B.
APPLICANT: Andrews, William
TITLE OF INVENTION: Telomerase Re
                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
                                                                                               CORRESPONDENCE ADDRESS:
                   CITY: San Prancisco
STATE: California
    COUNTRY:
                                                                                ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                     Application US/08911312
                                                         E: Townsend and Townsend and Crew LLP Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                            Cech, Thomas R.
                                                                                                                                         Reverse Transcriptase
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                                                                                                                                                                                                                                                                                                                                                           Matches 3815;
                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (415) 576-0300 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 015389-002500US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 08/915,503
FILING DATE: 14-AUG-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US 0
FILING DATE: 25-APR-1997
PRIOR APPLICATION DATA:
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APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCATION: 56..2476
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: nucleic
STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: FILING DATE: 06-MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Einhorn, Gregory REGISTRATION NUMBER: 3
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                                                                            GGACCCGGCGCTTTCCGCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCCCTGGGACGC
                                                                                                                    GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 180
                                                                                                                                                        GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCCGCAGCCACTACCGCGAGGTGCT 127
                                                                                                                                                                                                                                                                            GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCCTGGCCCCCGGCCACCCCCGCGATGCC
                                                                                                                                                                                                                                                                                                                     GCAGCGCTGCGTCCTGCCGCACGTGGGAAGCCCCTGGCCCCGGCCACCCCCGCGATGCC
                                        3855 base pairs
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06-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        UMBER: US 08/854,050
09-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               UMBER: US 08/912,951
14-AUG-1997
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/note= "clone #712562"
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                                                                                                                                                                                                                                                                                                                                                                            Score 3767.8;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                               DB 13; Length 3855;
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Qy	₽ 9	gb Qy	D Q	D Qy	р Q	Db Qy	D Qy	B &	QV db	DB QQ	dd VQ	A 4d	Db Qy	DB QY	D Qy	Qy Db	Db	В
1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGAGAAGA 1387	1268 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 1327	1208 GCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTTGGAACCACGCGCA 1267	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGGCAGGTTGCCCGCCC	1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	968 GCACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGGCAGACCCGCCGAAGAAGC 907	788 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	728 GAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAAGAGGCCCAGGCGTGGCGC 787	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	608 TCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGG 667	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGGGGG	368 GCTGCTGGACGGGGCCCCCGGGGGCCCCCGGAGGCCTTCACCACCACGTGCGCAGCTA 427	308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGAGCAGAAACGTGCTGGCCTTCGGCTTCGC 367	
oy da	pb 49) B Q	P &) B &) B &) B &	da da	B 5	S B 8	D dq	Db Q	o b sy	λ 4d) B 8) B (3	S B &	S D 4	
Y 2372 GCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGGACGGGCTGC 2431	2341	2252 TOGETHIGGETTCAGARAGGCCCCATGGGCAGTCCGCAAGGCCTTCAAGAGCCATGGCACTTCAAGAGCCATGGCAAGGCCATGGGCAAGGCCTTCAAGAGCCATGGCAAGGCCTTCAAGAGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCAAGGCAAGGCAAGGCAAGGCAAGGCAAGGCAAGGAAGGCAAGGAAGGCAAGGAAGGCAAGGAAGGAAGGCAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGAAGAAGAAGAAGAAGAAGAAAGAAAGAAAGAAAGAAAGAAAGAAAGAAAGAAAA	2192 GACAGGETCAGGGAGTCATGGCAGCATCATCAACCCCAGAACACGTACTGCGTGCG	2168 GCCGCCTGAGCTGTA	2108 CCTGGANGANATCCACAGGGCCTGGGGCACCTTCGTGCTGCTGTGCTG	2048 CAGCSTGCTCAACTACGAGCGGGCCCCGGGCCTCCTGGGCGGCCTCTGTGCTGGGCGGC	1981	1921	1868 GRAAGCAGAGGTCAGGCAGCATCGGGAAAGCCAGGCCCGCCTGCTGACGTCCAGACTCCG	1801	1748 1741	1688 CAAGTTCCTGCACTGGCGGATGAGTGTTGTTCTTTTA 1	1628 1621	1568 GETCTIGGCTGAGGAGCTGACGTGGAAGATGAGCGTGCGGAACTGCGCTTGGCTTGCGCAG 16	1500 CANCEMNESCUETICC CARGEMACACCAMBANGICATECCEM 1 100 CENTRES CONTROLLED CON	1441 CGGCTTCGTGCGGCTGCCTGCCCGGCTGGTGCCCCCAGGCCTCTGGGGCTCCAGGCA 150	1448 COCCUTACO COCCOCCOCCOCCOCCAGO COCCOCCAGO COCCAGO COCACAGO COCCAGO COCACAGO COCCAGO COCCAGO COCACAGO COCCAGO COCACAGO COCCAGO COCACAGO COCACACACACACACACACACACACACACACACACACA	1321

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3511	GTGTCCAGCACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCCAGG	3452 3481	유 성
3451	TGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGGGCTGAGCGTGAGCGAGTGTCCAGCCAAGGGCTGAGGCTGAGCGAGTGTCCAGCCAAGGGCTGA	2 4	B 8
ω ω ω a _a	CACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGAG	3332	음 중
3360	GCAGACACCAGCAGCCCTGTCACGCCGGGCTCTACG		물 5
330		3 2 4 1	당 등
321	THATTCGAAAGCTTCCCGGGAACGAAGCCTAACCCGGCA	18	8 8
318	CTGGACACGTGTCACGTACGTGCCACTCCTGGGGTCACTCAGGACAGACGCAGACGCAGACGCAGACAGCCAGACAGCCAGACAGCCAGACAGCCCAGACAGCCCAGACAGCCCAGACAGCCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACGCCAGACACGCAGACACGCAGACACACACACACACACACACACACACACACACACACACAC	i io io	, 음 5
309	GCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCAAGCTG	06	음 성
3031	GCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGC	97	유 성
3000	AGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTC	2 29	음 성
2911	AGATECTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCATC	285	음 중
2851	ACAGCCTGTTTCTGGATTTGCAGGTGAAC		음 · 5
2791	GCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTGTC		p S
3 2731 3 2760	AGAGCGACTAC	,	음 5
2671	CGGCCCACGGCTATTCCCCTGGTGCGGCCTGCTGCTGCAT	N N N N N N N N N N N N N N N N N N N	B 5
2611	CAGTGGTGAACTTCCCTGTAGAAGAC	2 2 5 5	유 성
2551	: TCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGC	N N	유 성
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US-08-911-312A-18
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                                                                                                                                                 CLASSIFICATION: 536

PIOR APPLICATION DATA:
APPLICATION UNMER: US 08/724,643
FILING DATE: 01-OCT-1996
PRIOR APPLICATION DATA:
APPLICATION UNMER: US 08/844,419
FILING DATE: 18-APR-1997
PRIOR APPLICATION UNMER: US 08/846,017
ENDRICATION UNMER: US 08/846,017
APPLICATION UNMER: US 08/846,017
PRIOR APPLICATION UNMER: US 08/846,017
PRIOR APPLICATION UNMER: US 08/851,843
APPLICATION UNMER: US 08/851,843
ENTITED AND DATE: 06-MAY-1997
                PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-MAY-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/912,951
FILING DATE: 14-AUG-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Cech, Thomas R.
APPLICANT: Lingner, Joachim
APPLICANT: Nakamura, Toru
APPLICANT: Chapman, Karen B.
APPLICANT: Morin, Gregg B.
APPLICANT: Harley, Calvin B.
APPLICANT: Andrews, William
TITLE OF INVENTION: Telomerase Reverse Transcriptase
NUMBER OF SEQUENCES: 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/911,312A
FILING DATE: 14-AUG-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: PatentIn Release #1.0, Version #1.30
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REGISTRATION NUMBER: 38,440
REFERENCE/DOCKET NUMBER: 015389-002500US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
LENGTH: 3855 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: CDNA
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OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: CDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG
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                                 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807
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2792 ACAGCCIGITICTGGATITGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTACA 2851	26/2 AGAGGACIACICCAGCTATGCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCGCG 2731 [612 CGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCTGGAGGTGC 26	2521 TOCTOAGGACCTEGTCCCAGGTGTCCCTGAGTATGGCTGCGTGAACTTGCGGAAGA 2580 2552 CAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGATGC 2611	492 TCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGAAAACCT 249 461 TCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGAAAACCT 252 492 TCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGAACTTTGCGGAAAAC 255	2 GCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCTGC 24	AGTCCTACGTCCAGTGCCAGGGATCCCGCAGGGTCCATCCTCTCCACGCTGCTCTGCA 23	52 TCGGTATGCCGTGGTCCAGAAGGCCGCCATGGGCACGTCCGCAAGGCCTTCAAGAAGGCA 23 81 TCGGTATGCCGTGGTCCAGAAGGCCGCCATGGGCACGTCCGCAAGGCCTTCAAGAAGGCA 23	92 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACGACGCGCGCG	68 GCCGCCTGAGCTGTA	108 CTTGGATATTCACAGAGGGCTTGGCGCACCTTCGTGTGTGT	048 CAGCGTGCTCAACTACGAGCGGGCGCGCGCGCCCCGGCCTCCTGGGCGCCTCTGTGCTGGG 210	988 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 20 	928 CTTCATCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 198	868	1 86
RESULT 5 US-08-974-524E-122 ; Sequence 122, Application US/08974524E ; GENERAL INFORMATION:	Db 3781 GGTGCTGTGGGAGTAAATACTGAATATATGAGTTTTTCAGTTTTGAAAAAAAA	QY 3692 CTGTACACAGCGAGCACCCTGCACCTGCACTCGTGCGTCCAAATTGGGGGGA 3751	3632 GTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAAAGGTGTGCC	Db 3541 GCCAGCTTTTCCTCACCAGGAGGCCGGCCTTCCACTCCCAACATAGGAATAGTCATCCCC 3600 Qy 3572 AGATTCGCCATTGTTCACCCCTTCGCCTTGTCTTTGCCTTTCACCCCCCACCATCCAG 3631	Oy 3452 GIGICCAGCACCIGCGGTTCACTTCCCCACAGGCIGGGCTCCACCCAGG 3511	3392 TGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCGAGTGTCCAGCCAAGGGCTGA	Qy 3332 CACCCAGGCCGCACGCTGGGAGTCTGAGGCCTGAGTGTTTTGGCCGAGGCCTGCA 3391	Qy 3272 GCAGACACCAGCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	OY 3212 TGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGGCCAGGCCAGACAGA	OY 3152 TGAGTCGGAAACTCCCGGGGAACGCTGACTGCCCTGGAAGGCCGAACCCGGGCAC 3211	Qy 3092 CTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCAGC 3151	Qy 3032 GCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGAGCCACCAAGCATTCCTGCTCAAGCTGA 3091	Qy 2972 GCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGGCGCCG 3031	OY 2912 AGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCTC	QY 2852 AGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCATC 2911

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Qy 8 GCAGCGCTGCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATGCC 67	Query Match 98.5%; Score 3767.8; DB 13; Length 3855; Best Local Similarity 99.0%; Pred. No. 0; Matches 3815; Conservative 0; Mismatches 2; Indels 36; Gaps 1;	; LOCATION: 562479 ; OTHER INFORMATION: /product= "hTRT" ; SEQUENCE DESCRIPTION: SEQ ID NO: 122: US-08-974-524E-122	; TOPOLOGY: linear ; MOLECULE TYPE: CDNA ; FEATURE: ; NAME/KEY: CDS	; SEQUENCE CHARACTERISTICS: ; LENGTH: 3855 base pairs ; TYPE: nucleic acid ; STRANDEDNESS: single.	-0200	; ATTORNEY/AGENT INFORMATION: ; NAME: Eithorn, Gregory P. ; REGISTRATION UNMEER: 38,440 ; REFERENCE/DOCKET NUMBER: 015389-002950US	APPLICATION NUMBER: WO PCT/US97/17618 APPLICATION NUMBER: WO PCT/US97/17885 FILING DATE: 01-OCT-1997	FILING DATE: 14-AUG-1997 FILING DATE: 14-AUG-1997 FILING DATE: 14-AUG-1997	NUMBER: US 114-AUG-199	: 25-APR-199 NUMBER: US : 06-MAY-199		; APPLICATION NUMBER: US/08/974,524E ; FILING DATE: 19 NOV-1997 ; CLASSIFICATION: <unknown> prior APPLICATION DATA:</unknown>	; COMPUTER: IBM PC compatible ; OPERATING SYSTEM: PC-DOS/MS-DOS ; SOTTWARE: Patentin Release #1.0, Version #1.30 ; CURRENT APPLICATION DATA:	; COUNTRY: USA ; ZIP: 94111-3834 ; COMPUTER READABLE FORM: , MEDIUM TYPE: Floppy disk	; ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor; CITY: San Francisco ; STATE: California	; Andrews, William H. ; TITLE OF INVENTION: Telomerase Reverse Transcriptase; ; NUMBER OF SEQUENCES: 477 ; CORRESPONDENCE ADDRESS:	Nakamura, Toru ; Chapman, Karen B. ; Morin, Gregg B. ; Harley, Calvin B.	; APPLICANT: Cech, Thomas R. ; Lingner, Joachim
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1088 GCCCTCCTTCCTAACTCAACTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147		968 GEACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCACTCCCACCCA	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	788 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGCTCCTGGGCCCACCCGGGCAGGAC 847	728 GAGGGGGGGGGGGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGGCCCAGGCGTGGCGC 787	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727			CGCGTGGGCGA.GACGTGCTGGTTCACCTGCTGGGCACGCTGCTCTTTGTGCTGGT	CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGCGGGGCGTGGGGGGCTGCTGCTGCGCTGCGGGCCAACACGGTGACGCACTGCGGGGGGAGCGGGGCGTGGGGGGCTGCTGCTGCG	368 GCTGCTGGACGGGGCCCGCGGGGGCCCCCCGAGGCCTTCACCACCACCACGTGCGCAGCTA 427	308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGAGCGCGGAAGAACGTGCTGGCCTTCGGCTTCGC 367	248 ACGGCCGCCCCCCCCCCCCCCTCCTTCCGCCAGGTGTCCTGCCTG	188 GEACCOGGCGCCTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGC	128 GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAAGGGCTGGCGGCTGGTGCAGCGCGG 187	68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT 127	1 GCAGCGCTGCCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATGCC 60

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2048 CAGCGTGCTCAACTACGAGCGGGCGCGCCCCGGCCTCCTGGGCGCCTCTGTGCTGGG 2107 2041 CAGCGTGCTCAACTACGAGCGGGCGCGCCCCGGCCTCTCTGGGCGCCTCTGTGCTGGG 2100 2108 CCTGGACGATATCCACAGGGCCTGGGGCGCACCTCTGTGCTGGCGGGCCCAGGACCC 2167	CTCGAGGGTGAAGGCC	1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTTCTACCGAAGAGTGTCTGGAG 1807	1628 GAGCCCAGGGGTTGGCTGTGTTCCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687	508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCTCGGGAAGCATCCCAA 1	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACCAGCAGCCCCTGGCAGGTGTA 1447	268 GECCGGTGTCTGTGCCCGGGAGAAGCCCAGGGCTCTGTGGCG	TGCCAGGGACTCCCCGCAGGTTGCCCCCCCT 1
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US-08-974-549-4
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GENERAL INFORMATION:
APPLICANT: Cech,
APPLICANT: Lingue
                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Nakamura, Toru
APPLICANT: Nakamura, Toru
APPLICANT: Chapman, Karen B.
APPLICANT: Harley, Calvin B.
APPLICANT: Harley, Calvin B.
APPLICANT: Andrews, William H.
TITLE OF INVENTION: Human Telomerase Catalytic Sub
NUMBER OF SEQUENCES: 726
CORRESPONDENCE ADDRESS:
ADDRESSEE: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTION Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/974,549
FILING DATE: 19-NOV-1997
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/724,543
FILING DATE: 01-0CT-1996
PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3452 GIGICCAGCACCIGCCGICTICACTICCCCACAGGCIGGCGCTCGGCTCCACCCCAGG 3511
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAAAGGTGTGCC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cech, Thomas R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human Telomerase Catalytic Subunit
                                                                                                                                                                                      Version #1.30
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                                                                                                                                                                                                                                                                                                                                                                                     Matches 3815;
                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (415) 576-0300 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE: 01-OCT-1997

PRIOR APPLICATION DATA:

APPLICATION UNMBER: WO PCT/US97/17885

FILING DATE: 01-OCT-1997

ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Apple, Randolph Ted
REGISTRATION NUMBER: 36,429
REGERENCE/DOCKET NUMBER: 015389-002610US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 14-AUG-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/US97/17618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-WAY-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/911,312
FILING DATE: 14-AUG-1997
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US 01
FILING DATE: 18-APR-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 01
FILING DATE: 25-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/915,503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 08/851,843
FILING DATE: 06-MAY-1997
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: CDS
LOCATION: 56..2479
OTHER INFORMATION: ,
OTHER INFORMATION: ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: -
LOCATION: 1..3855
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
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TELEPHONE: (415)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US 08/912,951 FILING DATE: 14-AUG-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE:
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                                                                                                                  121
                        181 GGACCCGGCTTTCCGCGCGCGCTGGTGCCCAGTGCCTGGTGTGCCCTGGGACGC
                                                                   128 GCCGCTGGCCACGTTCGTGCCGCCCTGGGGGCCCCACGCCTGGCGGCTGGTGCAGCGCGGG
                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCGCGAGCCACTACCGCGAGGTGCT 127
                                                                                                                                                                                                                                                                                                                                       8 GCAGCGCTGCGTCCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATGCC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             : 3855 base pairs
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                                                                                                               GCCGCTGGCCACGTTCGTGCGGCGCCCTGGGGGCCCCAGGGCTGGCGGCTGCTGCAGCGCGG
                                                                                                                                                                                                                                                                                            GCAGCGCTGCGTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATGCC 60
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25-APR-1997
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open reading frame encoding a delta-182
variant polypeptide"
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                                                                                                                                                                                                                                                                                                                                                                                                      Score 3767.8;
Pred. No. 0;
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248 AGGACCACCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
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1121 ACCOGREGICITY COCCOGRACADA COCCOGRACACACOCCOCCADA COCCOCCADA CONTROL COCCOMBRIGATION COCCOGRACA COCCOCCADA CONTROL COCCOGRACA COCCOCCADA COCCOCADA COCCOCCADA CO

GTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCCGCCTCCACCCCAGG 3511	CACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGATTTGGCCGAGGCCTGCA 3420 TGTCCGGCTGAAGGCTGAGGCCTGAGGCCTGAGTGTTCCAGCCAAGGGCTGA 3451	GCAGACACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	TGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCAGGCCGAGA 3271	TGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCAGCCA	CTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCAGC 3151	GCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCAAGCTGA 3091	GCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGGCGCCCGCC	AGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCTC	AGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCATC 2911	ACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTACA 2851	GCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTGTC 2791	2672 AGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCGCG 2731	2612 CGGCCCACGGCTATTCCCCTGGTGCGGCCTGCTGCTGCTGGATACCCGGACCCTGGAGGTGC 2671	CAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGATGC 2611	TCCTGCGTTTGGTGATTTCTTGTTGGTGACACCTCACCT	GCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGGCGGAGAGCCTGC 2460 TCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCCACGCGAAAACCT 2491
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APPLICATION NUMBER: US 08/915,503 FILING DATE: 14-AUG-1997 APPLICATION NUMBER: WO PCT/US97/17618	FILING DATE: 06-MAY-1997 APPLICATION NUMBER: US 08/854,050 FILING DATE: 09-MAY-1997 APPLICATION NUMBER: US 08/911,312 FILING DATE: 14-AUG-1997 APPLICATION NUMBER: US 08/912,951 FILING DATE: 14-AUG-1997	APPLICATION NUMBER: US 08/844,419 FILING DATE: 18-APR-1997 APPLICATION NUMBER: US 08/846,017 FILING DATE: 25-APR-1997 APPLICATION NUMBER: US 08/851,843	CLASSIFICATION: <unknown> PRIOR APPLICATION DATA: APPLICATION NUMBER: US 08/724,643 FILING DATE: 01-00T-1996</unknown>	CURRENT APPLICATION NUMBER: US/08/974,584C FILING DATE: 19.NOV-1997	COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC COMPATIBLE COMPUTER: BC-DOC/MC-DOC	CITY: San Francisco CITY: San Francisco STATE: California COUNTRY: USA ZID: 94111-3834	NUMBER OF SEQUENCES: 479 CORRESPONDENCE ADDRESS: COMBER OF SEQUENCES: Townsend and Crew LLP COMBERT. Two Embarca Contor Fichth Eloc	Morin, Gregg B. Morin, Gregg B. Harley, Calvin B. Andrews, William H. Andrews, William H.	APPLICANT: Cech, Thomas R. Lingner, Joachim Nakamura, Toru Chamman Karen R	RESULT 7 US-08-974-584C-122 US-08-974-584C-122 : GENERAL INFORMATION:	3841 AAAAAAAAAAA 3853	3/52 G1GC G1GGGG17ARARIA LEMATA 1810G111 COG111 COMPANAMENTAMENTAMENTAMENTAMENTAMENTAMENTAME	721	661	3541 GCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCACATAGGAATAGTCCATCCA	512 GCC#

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Oy 1568 CAAGGACGCGCTGCTGCAGGAACACCAAGAGTTCATCTCTCTTTA 1747 Oy 1568 CTCTCGCTGCAGGAGCTGACGTGAGAAGATTCATCTCTCTTTA 1740 Oy 1568 CTCTCGCTGCAGGAGCTGACGTGAAGATGAGCTGCGGAAGTTCGCAGTGCGCAG 1620 CTCTCGCTGCAGGAGCTGACGTGAAAGTAGACGTGCGGAACTGCGCTTGAGCTGCGCAG Oy 1628 GAAGCCCAGGGTTGGCTGTTCCGGCCGAGAAGTCCGTCTGAGGAGATCCTGGC Oy 1680 CAAGTTCCTGCACTGGCTGTTCCGGCCGAGAGCACCGTCTGCGTGAGGAGATCCTTGGC Db 1681 CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGTCTTTTTTA 1747 OY 1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTTCTACCGGAAGAGAGTCTTCTTTA 1740 OTHER CAAGTTCCTGCACTGGCTGAAGGAACAGGCTCTTTTTTCTACCGGAAGAGAGAG	1388 CACAGACCCCGTCGCCTGGTGAGCTGCTCCGCCAGCACACCCCTCGCAGGTGTA	Db 1201 GCCCCAGCCTACTGGCAAATCGGCCCCTGCTGTTGGGAACCACCGCCAGC 1260 Oy 1268 GTGCCCCTACGGGGTGCTCCTCAAGACGCCCCTGCCGCTGCGGTGCTGCTGCGGTCACCCCAGC 1327	Db 1021 CCCGGTGTACGCCGAGACCTACGCTACTCCTTACTCCTACGGGGACGCTGGGGAGCTGCG 1080 Qy 1088 GCCCTCCTTCCTACTCAGCTCTTGAGGCCCAGCCTGACTGGGGAGGCTCGTGGA 1147	Qy 848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCGCCGAAGAAGC 907 841 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC 908 CACCTCTTTGGACGGTGGTCTCTCTGGCACGCCCACTCCGACCCCATCCGTGGGCCGCCA 967 908 CACCTCTTTGGACGGTGCCTCTCTGGCACGCCCACTCCCACCCCATCCGTGGGCCGCCA 968 961 CACCTCTTTGGACGGTGCGCTCTCTGGCACGCCCACTCCCACCCCATCCGTGGGCCGCCA 968 968 GCACCACGCGGGCCCCCATCCACATCCACGTCCCACCCATCCGTGGGACACGCCTTGTCC 968 GCACCACGCGGGCCCCCCATCCACATCCGCGCCACCACGTCCCTGGGACACGCCTTGTCC 968 GCACCACGCGGGGCCCCCCATCCACATCCGCGCCACCACGTCCCTGGGACACGCCTTGTCC 1027 1028 CCCGGTGTACGCCGGAACCCAAGCCTTCCTCTCACGTCCCTCGGGACAAGGAGCAGCTGTGC 1087	Db 661 CTGGAACCATAGCGTCAGGAGGCCGGGTCCCCCTGGGCCCAGGCCCGGGTGCGAG 720 Qy 728 GAGGCGCGGGGAGGTGCCAGCCGAAGTCTGCCAAAGAGGCCCAGGCGTGGCGC 787

2792 ACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTACA 2851	2732 GCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTGTC 2791	2672 AGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCGCG 2731	612 CGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGTGGATACCCGGACCCTGGAGGTGC 2	552 CAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGATGC 26	492 TCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGGGGGTGAACTTGCGGAAGA 25	432 TCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCCACGCGAAAACCT 249	372 GCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGGACGGGCTGC 24	312 AGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGTCCATCCTCCACGCTGCTCTGCA 237	252 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGGCA 231 	192 GGACAGGCTCACGGAGGTCATCGCCAGGAACACCCCAGAACACGTACTGCGTGCG	168 GCCGCCTGAGCTGTA	108 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC	048 CAGCGTGCTCAACTACGAGCGGGGGGCGGCGCCCCGGGCCTCCTGGGCGGCCTCTGTGGGGGG	988 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 204	1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987	1868 GAAAGCAGATCAGGCAGCATCGGGAAAGCCAGGCCCTGCTGATGACGTCCAGACTCCG 1927	1741 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1800 1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867
RESULT 8 US-09-432: ; Sequence	B 8	p s	d Q	g 8	d VQ	D Qy	Qy Db	Db Db	D Qy	D QY	g Vy	A A	β Q	dy Qy	η γο	D &	A 40
.8 432-503-4 sence 4, Application US/09432503	3812 ARABARARABA 3824 3841 ARABARARARARA 3853	GETGCTGT GETGCTGT	₽ 2	3632 GTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCAAAGGTGTGCC 3691	3572 AGATICGCCATIGITCACCCCTCGCCCIGCCCTTTGCCTTCCACCCCCACCCATCCAG 3631	3512 GCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATCCCC 3571	3452 GTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCCAGG 3511	3392 TGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCGAGTGTCCAGCCAAGGGCTGA 3451	3332 CACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGATTTGGCCGAGGCCTGCA 3391	3272 GCAGACACCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	3212 TGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCAGGCCGAGA 3271	3152 TGAGTCGGAAGCTCCCGGGGACGCTGACTGCCCTGGAGGCCGCAGCCAACCCGGCAC 3211	3092 CTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCAGC 3151	3032 GCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCATTCCTGCTCAAGCTGA 3091	2972 GCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGGCGCCGCCG 3031	912 ASCANSIII GEMAGAICE CACAIIII II ICII GEGEGI CATCII CIACACGGCCTCCCTCT 2	B52 AGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCATC

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GENERAL INFORMATION:
APPLICANT: Cech
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Nakamura, Toru
Nakamura, Toru
Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin B.
Andrews, William H.
TITLE OF INVENTION: Human Telomerase Catalytic Subunit
NUMBER OF SEQUENCES: 727
                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: Apple, Randolph Ted
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002610US
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/432,503
FILING DATE: 02-Nov-1999
CLASSIFICATION: -Unknown>
PRIOR APPLICATION DATA:
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ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
polypeptide"
SEQUENCE DESCRIPTION: SEQ ID NO: 4:
                                                                                                                                                                                                                                              MOLECULE TYPE: cDNA
                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                              FEATURE:
                                                                                                                                LOCATION: 1..3855
OTHER INFORMATION: /note= "nucleic acid sequence with an open reading frame encoding a delta-182
                                                                                                                                                                                                                                                             LENGTH: 3855 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                         OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: WO PCT/US97/17618
FILING DATE: 01-OCT-1997
APPLICATION NUMBER: WO PCT/US97/17885
FILING DATE: 01-OCT-1997
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FILING DATE: 14-AUG-1997
APPLICATION NUMBER: US 08/915,503
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FILING DATE: 25-AFR-1997
APPLICATION NUMBER: US 08/851,843
FILING DATE: 06-MAY-1997
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APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (415) 576-0200
TELEFAX: (415) 576-0300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 08/854,050 FILING DATE: 09-MAY-1997
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                                                             LOCATION:
                                                                                   NAME/KEY:
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961 GCACCACGCGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1020
                                     968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027
                                                                                                                     908 CACCICITIGGAGGGIGCGCICICIGGCACGCCACTCCCACCCAICCGIGGGCCCCCA 967
                                                                                                                                                             841 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCCGCCGAAGAAGC
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                                                                                                                                                                                                                                              781 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              601 TCAGGCCCGGCCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC
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                                                                                                                                                                                                                                                                                     TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGTCCTGGGCCCACCCGGGCAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                           CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG
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Pred. No. 0;
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	Ag Ag	dd VQ	₽ Q	8 8	9d 4d	dg VQ	dg Qy	95 55	g d	D 89	B &	A 43	4d 4d	db Qy	A A	A A	Qy db	D QY
	2048 CAGCGTGCTCAACTACGAGCGGGCGGCGGCCGCCCGGCCTCCTGGGCGCCTCTGTGCTGGG 2107	1988 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCCACCTCGAGGGTGAAGGCACTGTT 2047	1928 CTTCATCCCAAGCCTGACGGCCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987	1868 GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGGCTGTC 1867 	1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	1688 CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT	1628 GAGCCCAGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCAG 1627	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567 	1448 CGGCTTCGTGCCGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA 1507	1388 CACAGACCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1447	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGA 1387	1268 GTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGGAGCTGCGGTCACCCCAGC 1327	1208 GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267	1148 GACCATCTTTCTGGGTTCCAGGGCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT 1207	1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087
γο	B &	, B &	, B _, 8)	P &	Qy dd	B &) B (}	;) B () B () B Q	₽, \$) p Q	, B &	}	, p &
3152 TGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCCAACCCGGCAC 3211	3092 CTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCAGC 3151	032 GCCTGTGCCCTCGAGGCGTGCAGTGGCTGCCACCAAGCATTCCTGGTCAAGCTGA	/2 GCTACTCCATCCTGAAAGCCAAGAACGCAGGATGTCGCTGGGGGCCAAGGGCGCCGCCG 01 GCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGGCGCCGCCG	12 AGCAAGTTIGGAAGAACCCCACATTTTCCTGCGCGTCATCTCTGACACGGCCTCCCTC	52 AGATECTECTGCTGCAGCGTACAGGTTTCACGCATTGCATC 1	792 ACARCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTACA	761 GCTTCAAGGCTGGGAAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTGTC	/2 AGABUSALIACTICLAGETATECCOGGACCTICATCAGAGCCAGTCTCACCTTCAACCGCG	1 CONCENTRATION OF THE CONTROL OF TH	552 CAGIGGIAACTICCCIGIAGAAGACGAGGCCCIGGGGGCACGGCTITIGITCAGAIGG 581 CAGIGGIGAACTTCCCTGTAGAAGACGAGGCCCTGGGGGCACGGCTTTTTTTCAGAIGGC	2 ICCICAGGACCTGGICCGAGGIGTCCTGAGTATGGCTGCGTGAACTTGCGGAAGA 21 TCCTCAGGACCCTGGICCGAGGIGTCCCTGAGTATGGCTGCGGAACTTGCGGAAGA 21 TCCTCAGGACCCTGGICCGAGGIGTCCCTGAGTATGGCTGCGTGAACTTGCGGAAGA	2 TOCHGUGITIGGIGGATGATITCTIGTIGGIGACACCICACCICAC	72 GCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGATTCGGCGGACGGGCTGC	12 AGTICTACGTICCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTGCA 1	52 Tedgirigecegiggiceagaaggeegeegegegegegegegegegegegegegeg	92 GGALAGGCICAGGAAGGICAIGGCCAGGAICATCAAACCCCAGAACACGTACTGGGIGGG 21 GGALAGGCICACGGAGGICAIGGCCAGGAICATCAAACCCCAGAACACGTACTGCGTGCG 21 GGALAGGCICACGGAGGICAIGGCAGCAICATCAAACCCCAGAACACGTACTGCGTGCG	68 GCCGCCTGAGCTGTA	08 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC

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RESULT 9
US-09-721-477-4
US-09-721-477-4
; Sequence 4, Application US/09721477
; SENERAL INFORMATION:
Thomas R.
ZIP: 94111-3834

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30
                                                                                                                                                                                       NUMBER OF SEQUENCES: 727

CORRESPONDENCE ADDRESS:
ADDRESSE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                 Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin B.
Andrews, William H.
TITLE OF INVENTION: Human Telomerase Catalytic Subunit
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3661
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3332 САСССАСОССАССССТССТССТВЕВАСТСТВАСССТВАСТВАСТВТТТССССВАССССТВСА 3391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3241 TGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCCCCCACAGCCAGGCCAGAGA 3300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGATTCGCCATTGTTCACCCCTCGCCCTGCCCTCCTTTGCCTTCCACCCCCACCATCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGTCCAGCACACCTGCCGTCTTCACTTCCCCACACGCTGGCGCTCGGCTCCACCCCAGG 3511
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTGGAGACCCTGAGAAGGACCCTGGGAACCTCTGGGAATTTTGGAGTGACCAAAGGTGTGCC 3720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGGAGACCCTGAGAAGGACCCCTGGGAGCTCTGGGAATTTTGGAGTGACCAAAGGTGTGCC 3691
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGTCCAGCACCTGCCGTCTTCACTTCCCCCACAGGCTGGCGCTCGGCTCCACCCCAGG
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                                                                                                                                       COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                              Lingner, Joachim
Nakamura, Toru
Chapman, Karen B.
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; SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-721-477-4
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: cDNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
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                            181
                                                                    121 GCCGCTGGCCACGTTCGTGCGGCGCCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGCG
                                                                                                                                                          128 GCCGCTGGCCACGTTCGTGCGGCGCCCTGGGGGCCCCAGGGCTGGCGGCTGCTGCAGCGCGCGG
                                                                                                                                                                                                       61 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT
                                                                                                                                                                                                                                                68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT 127
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                                                                                                                                                                                                                                                                                                                                     8 GCAGCGCTGCGTCCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATGCC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCATION: 1..3855
OTHER INFORMATION: /note= "nucleic acio
open reading frame encoding a delta-182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 3855 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 18-APK-1997,
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APK-1997
FILING DATE: 18-APK-1997
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FILING DATE: 22-NOV-2000
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCATION: 56..2479 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Apple, Randolph Ted
REGISTRATION NUMBER: 36,429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: WO PCT/US97/17885 FILING DATE: 01-OCT-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 08/915,503
FILING DATE: 14-AUG-1997
APPLICATION NUMBER: WO PCT/US97/17618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 08/912,951
FILING DATE: 14-AUG-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 06-MAY-1997
APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/911,312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: 08/974,549
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 08/844,419
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                                                                                                                                                                                                                                                                                                                                                                                  Conservative
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06-MAY-1997
תואמיי
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                                                                                                                                                                                                                                                                                                                                                                                                   Score 3767.8;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product= "delta-182 variant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "nucleic acid sequence with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1997
                                                                                                                                                                                                                                                                                                                                                                                                                           DB 31; Length 3855;
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CGCCT 1200 CGCCA 1267 GCCAGC 1327 CCAGC 1320 CCAGC 1320 GAGGA 1387	3 1087 3 1080 4 1147 4 1140	41 GCGTGGACCGAGGGACCGTGTTTCTGTGTGGGGCACTCCCAGCCATCCGCGGGGCGCA 967	C C C C C C C C C C C C C C C C C C C	TCAGGCCCGGCCCACACGCTAGTGGAACCCCGAAGGCGTCTGGGATGCGAACCGGC 667	CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	248 ACGGCCGCCCCCCCCCCCCCCCCCCCCAGGTGTCCTGAAGGAGCTGGTGGC 307
QY 23 QY 23 QY 23		Db 192 Qy 198 Db 198 Db 204 Db 204 Db 2710		Qy 168 Db 168 Qy 174 Db 174 Db 174 Oy 180	Db 15 Db 16 Db 16	
72	2101 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCTGTGCGGGCCCAGGACCC 2168 GCCGCCTGAGCTGTA	4.8 4 8 4 8	90 H 90 H 9	30 H 30 H 30	1568 GCTCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGCAGATGAGCGTTGGCCTGGCCAGAGTGAGCTGGCCAGAGTGAGCTGGCCAGAGTGAGCAGAGTGAGCAGAGTGAGCAGAGTGAGCAGAGTGAGCAGAGAGCAGAGAGCAGGAGAGAGA	1 8 1 8 1

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FILING DATE: 14-AUG-1997 APPLICATION NUMBER: US 08/915,503 FILING DATE: 14-AUG-1997 APPLICATION NUMBER: WO PCT/US97/17618		3421 TGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCTGAGGGTGTCCAGCCAAGGGCTGA 3480 3452 GTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCCAGG 3511
1997 US 08/911, 1997 IS 08/912.		392 TGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGC
APPLICATION NUMBER: US 08/851,843 FILING DATE: 06-MAY-1997 APPLICATION NUMBER: US 08/854,050		3332 CACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGATTGAGCCGAGGCCTGCA 3391
APPLICATION NUMBER: US 08/844,419 ; FILING DATE: 18-APR-1997 ; APPLICATION NUMBER: US 08/846,017 ; FILING DATE: 25-APR-1997		3272 GCAGACACCAGCAGCCCTGTCACGCCGGGTTCTACGTCCCAGGGAGGG
CLASSIFICATION: <unknown> ; PRIOR APPLICATION DATA: ; APPLICATION NUMBER: US 08/724,643 ; PILING DATE: 01-0CT-1996</unknown>		3212 TGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCCAGGCCGAGA 3271
SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA: ; APPLICATION NUMBER: US/09/721,506 FILING DATE: 22-NOY-2000		3152 TGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGAGCCAACCCGGCAC 3211
COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible COMPUTER: FC-DOS/MS-DOS		3092 CTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCAGC 3151
CITY: San Francisco STATE: California COUNTRY: USA ZIP: 94111-3834		3032 GCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCAAGCTGA 3091
NUMBER OF SEQUENCES: 727 CORRESPONDENCE ADDRESS: ADDRESSEE: Townsend a STREET: Two Embarcade		2972 GCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGGCGCCGCCG 3031
חודיו. א סא זא		2912 AGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCTC
APPLICANT: Cech, Thomas R. Lingner, Joachim Hakamura, Toru Charman Karen R		2852 AGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGCTGCAGCTCCCATTTCATC 2911
RESULT 10 US-09-721-506-4 ; Sequence 4, Application US/09721506 . GRURPAL TURDBMATTON:		2792 ACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTACA 2851
		2732 GCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTGTC 2791
Cy 3/32 GGIGCIGIGGAGIAAAAIA LAMILA HIGHEILII CAGILIIGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA		2672 AGAGGGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCGCG 2731
3721 CTGTA		2612 CGGCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCTGGAGGTGC 2671
3661 GTGGA		2552 CAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGATGC 2611
35/2 AGATT 3601 AGATT		2492 TCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAAGA 2551
3541		2432 TCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGAAAAACCT 2491
	_	2401 GCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGGACGGGCTGC 2460

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QY 548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	QY 488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGCGCACGCTCTTTTGTGCTGGT 547	Qy 428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGGGGG	QY 368 GCTGCTGGACGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA 427 Db 361 GCTGCTGGACGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA 420	ω ω ΩΩ	QY 248 ACGGCCGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		QY 128 GCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGTGCAGCGCGG 187	QY 68 GCGCGCTCCCCGCTGCCGAGCCGTGCGTCCCTGCTGCGCACTACCGCGAGGTGCT 127	QY 8 GCAGCGCTGCGTGCGCGCACGTGGGAAGCCCTGGCCCCGGGAACCCCCGGGATGCC 67	Query Match 98.5%; Score 3767.8; DB 31; Length 3855; Best Local Similarity 99.0%; Pred. No. 0; Matches 3815; Conservative 0; Mismatches 2; Indels 36; Gaps 1;	OTHER INFORMATION: /product= "delta-182 variant; ; SEQUENCE DESCRIPTION: SEQ ID NO: 4: US-09-721-506-4	variant polypeptide" ; FEATURE; NAME/KEY: CDS ; LOCATION: 562479	NAME/KEY: - ; LOCATION: 13855 ; OTHER INFORMATION: /note= "nucleic acid sequence with an open reading frame encoding a delta-182	STRANDEDNESS: single HOPOLOGY: linear MOLECULE TYPE: cDNA FEATURE:	; INFORMATION FOR SEQ ID NO: 4: ; SEQUENCE CHARACTERISTICS: ; LENGTH: 3855 base pairs ; TYPE: nucleic acid	REFERENCE/DOCKET NUMBER: 015389-002610US ; TELECOMMUNICATION INFORMATION: ; TELEPHONE: (415) 576-0200 ; TELEPAX: (415) 576-0300		; FILING DATE: 01-OCT-1997 ; APPLICATION NUMBER: WO PCT/US97/17885
Qy db	- 4a	}	5 B 8	Qy Db	D Qy	Qy dd	Qy Db	Qy dd	od dd Yy	A AG	dg V2	p Q	dg VQ	g Q	da Vo	dg VQ	dd Qy	. Db
1628 GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCCTCTGCGTGAGGAGATCCTGGC 1687		CARCERACECUELIC CARGEMERACACHARANEILCA ICCCE INGESENECAIOCEAN	A 25520 A 26720 A 2672	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1447	1328 AGCCGGTGTCTGTGCCCGGGAGAACCCCCAGGCTCTGTGGCCGCCCCCGACGAGGAGGA 1387		1208 GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAACTGCTTTGGGAACCACGCGCA 1267	1148 GACCATCTTTCTGGGTTCCASGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT 1207		CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGCAGCAGCAGCTGCG	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACGACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCICTITGGAGGGIGCGCICTCIGGCACGCGCCACCCCACC	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGAAGC 907 	788 TGCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	728 GAGGCGCGGGGCAGTGCCAGCCGAAGTCTGCCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCCAGCCCCGGGTGCGAG 727	608 TCAGGCCCGGCCCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	541 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 600

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### TOTCLAGGACAGCCAGGTTCAAAAGAACAACACTCTTTTTTTTCACCGAAAAGACAACTGCTTCAAAACAAAC	1688 CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT
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2761 Certifichal deliriosal del	2732 GCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGGGGCTGAAGTGTC 2791

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RESULT 11
US-10-044-539-4
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GENERAL INFORMATION:
APPLICANT: Cech, Thomas R.
                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO: 4: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compartible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
11-Jan-2002
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 335

CORRESPONDENCE ADDRESS:

ADDRESSEE: Townsend and Townsend and Crew LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/912,951
FILING DATE: <UNKnown>
APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nakamura, Toru
Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin
Andrews, William H.
TITLE OF INVENTION: HUMAN TELOMERASE CATALYTIC SUBUNIT:
    polypeptide"
SEQUENCE DESCRIPTION: SEQ ID NO: 4:
                                                                                                                                                                                                                 MOLECULE TYPE: CDNA FEATURE:
                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
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                                    NAME/KEY: CDS
LOCATION: 56..2479
OTHER INFORMATION:
                                                                                                                                   LOCATION: 1.3855
OTHER INFORMATION: /note= "nucleic acid sequence with open reading frame encoding a delta-182
                                                                                                                                                                                                                                                      TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 08/851,843 FILING DATE: 06-MAX-1997 APPLICATION NUMBER: US 08/846,017 FILING DATE: 25-APR-1997 APPLICATION NUMBER: US 08/844,419 FILING DATE: 18-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Apple, Randolph T.
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002600US
                                                                                                                variant polypeptide"
                                                                                                                                                                                                 NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 08/724,643 FILING DATE: 01-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE: California
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: United States of America
                                                                                                                                                                                                                                                                                                             ENGTH: 3855 base pairs
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                                           /product= "delta-182
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Best Local Similarity
  961 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC
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                                  968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027
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                                                                                                                  GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGC
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Pred. No. 0;
0; Mismatches
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3121 CTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAC		3032 GCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCAAGCTGA 3091	GTACTCCATCCTGAAAQCCAAGAACGCAGGATGCGCTGGGGGCCAAGGGCGCCGCCG	AGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCTC	AGATCCTCCTGCTGCAGGCGTACAGGTTCACGCATGTGCTGCAGCTCCCATTTCATC	792 ACAGCCTGTTTCTGGATTTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCACAGTCTACA	2 GCTTCAAGGCTGGGAAGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTGTC	2672 AGAGCGACTACTCCAGCTATGCCCGGACCTCCATCXAGGCCAGTCTCACCTTCXACCGCG 2731	20 	2552 CAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGATGC 2611		TCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACCCTCACCTCACCCACGCGAAAACCT	2372 GCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGAATTCGGCGGGACGGGCTGC 2431	2312 AGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCACGCTGCTCTGCA 2371		GACAGGCTCACGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGTGCG	GCGCCTGAGCTGTA	cctggacgatatccacagggctggcgcaccttcgtgctgcgtgtgcgggcccaggacccllllllllll

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US-10-044-692-4
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GENERAL INFORMATION:
APPLICANT: Cech, Thomas R.
  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
                                                                                                                                                                                                                                                  TITLE OF INVENTION: HUMAN TELOMERASE CATALYTIC SUBUNIT: DIAGNOSTIC AND THERAPEUTIC METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3752
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                                                                                                        COUNTRY: United States of America
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                                                                                                                            TY: San Francisco
ATE: California
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Nakamura, Toru
Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin
Andrews, William H
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Best Local Similarity
Matches 3815; Conserv
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NAME: Apple, Randolph T.

REGISTRATION UMBER: 36,429

REFERENCE/DOCKET NUMBER: 015389-002600US

TELECOMMUNICATION INFORMATION:

TELEPHONE: (415) 576-0200

TELEPAX: (415) 576-0200

INFORMATION FOR SEQ ID NO: 4:
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APPLICATION NUMBER: US/10/044,692
FILING DATE: 11-Jan-2002
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
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CCGAGTGCTGCAGAGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 360
                                                                              GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCCGG 187
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OTHER INFORMATION:
polypeptide"
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OTHER INFORMATION: /note= "nucleic acid
open reading frame encoding a delta-182
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TYPE: nucleic acid
STRANDEDNESS: single
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FILING DATE: 25-APR-1997
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
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FILING DATE: «Unknown»
APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-WAY-1997
APPLICATION NUMBER: US 08/851,843
FILING DATE: 06-WAY-1997
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Pred. No. 0;
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US-10-325-810-4
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Best Local Similarity 99.0%;
Matches 3815; Conservative
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INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
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      668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727
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LOCATION: 56..2479
OTHER INFORMATION: /product= "delta-182 variant
                                           TCAGGCCCGGCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 660
                                                                             TCAGGCCCGGCCCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667
                                                                                                                    GECTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC
                                                                                                                                                       GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607
                                                                                                                                                                                              CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCTGCGCGCTCTTTGTGCTGGT 540
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OTHER INFORMATION: '/note= "nucleic acid sequence with an open reading frame encoding a delta-182
variant polypeptide"
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STRANDEDNESS: single
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Pred. No. 0;
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APPLICANT: Zubov, Dmitry
TITLE OF INVENTION: Human Catalytic Telomerase Sub-Unit and its Diagnostic and '
TITLE OF INVENTION: Use
FILE REFERENCE: Bayer 10,203
CURRENT APPLICATION NUMBER: US/09/424,686F
CURRENT APPLICATION NUMBER: US/09/424,686F
PRIOR APPLICATION NUMBER: PCT/EP98/03468
PRIOR APPLICATION NUMBER: PCT/EP98/03468
PRIOR FILING DATE: 1998-06-09
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Microsoft Word
SEQ ID NO 9

INCOMPANDED OF SEQ ID NOS: 32
SOFTWARE: Microsoft Word
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Best Local 9
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APPLICANT: Siegmund, Hans-U
APPLICANT: Weichel, Walter
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OTHER INFORMATION: Nucleotides 2184 to 2219 of
OTHER INFORMATION: vide this sequence.
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NAME/KEY: CDS
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TYPE: DNA
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79 61 39	2641 TGGTGACACCTCACCCACGCGAAAACCTTCCTCAGGACCCTTGGTCCGAGGTGTCC 2700 2519 CTGAGTATGGCTGGTGAACTTGCGGAAGACACTGGTGAACTTCCCTGTAGAAGACG 2578 2701 CTGAGTATGGCTGGTGAACTTGCGGAAGACACTGGTGAACTTCCCTGTAGAAGACG 2578	2399 AGCIGITIGGGGGGATICGGCGGACGGCTGCTCCTGCGTTTGGTGATGATTTCTTGT 2458	2339 GGCAGGGCTCCATCCTCTGCACGCTGCTGCAGCCTGTGCTACGGCGACATGGAGAACA 2398	TCATGTGCCACCACGCGTGCGCATCAGGGCAAGTCCTACGTCCAGTGCCAGGGGATCCTCATGTGCCACGCGCGATCAGGGGATCCTACGTCCAGTGCCAGGGGATCC	TCGAGGAGAGCTCCTCAATGAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCT	2308 2307 2311 ACATGCGACAGTTCGTGGCTCACCTGCAGGAGAGCCAGCC	2281 ATGGGCACGTCCGCAAGGCCTTCAAGA	2221 TCATCAAACCCCAGAACACGTACTGCGTGGGTCGGTATGCCGTGGTCCAGAAGGCCGCCC 2280	2161 AGGACCCGCCTGAGCTGTACATCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCA 2220	2101 TGCTGGGCCTGGACGATATCCACAGGGCCTGGGGCACCTTCGTGCTGCGTGTGCGGGCCC 2160	2041 CACTGTTCAGCGTGCTCAACTACGAGCGGGCGGCGGCGCCCCGGCCTCCTGGGCGCCTCTG 2100 [1981 TGGGAGCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGG 2040	1921 GACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCCGATTGTGAACATGGACTACGTCG 1980	1861 AGCTGTCGGAAGCAGAAGGTCAAGCAAGCATCGGGAAGCCAAGGCCCGGCCCTGCTGACGTCCA 1920	1801 TCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGG 1860	1741 TCTTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTG 1800
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3659 GCTCTGGGAATTTGGAGTGACCAAAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCT	3721 CTTCCACTCCCCACATAGGAATAGTCCATCCCCAGATTCGCCATTGTTCACCCCTCGCCC 3599 TGCCCTCCTTTGCCTTCCACCCCCACCACCATCCAGGTGGAGACCCTGAGAAGGACCCTGGGA		3419 TGAGGCCTGAGGAGTGTCCAGCCAAGGGCTGAGTGCAACACACCTGCCGTCTTCACT		3299 GGTCTACGTCCCAGGGAGGGAGGGGGCCCACACCCAGGCCCGCACCGCTGGGAGTCT	3239 ACTGATGGCCACCCGCCACAGCCAGAGCCAGAGCAGCAGCAGCAGC		01	3059 GGCTGTGCCACCAAGCATTCCTGCTCAAGCTGACTCGACACCGTGTCACCTACGTGCCAC	999	939	190	001	759 941	81	821

541 TGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGC	481 TGCTGCGCCGCGTGGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTT	421 GCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGGCGGGGGCTGGGGGGCTGGGGGGGG	361 GCTTCGCGCTGCTGGACGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCAGCGTG	301 TGGTGGCCCGAGTGCTGCAGAGGCTGTGCGAGCGGCGCGAAGAAACGTGCTGGCCTTCG	241 GGGACGCACGGCCCCCCGCCGCCCCTCCTTCCGCCAGGTGTCCTGCCTG	181 AGCGCGGGGACCCGGCGGCTTTCCGCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGC	121 AGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGCTGGTG	61 CGATGCCGCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGC	1 GTTTCAGGCAGCGCTGCGTCCTGCTGCGGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCG	Query Match 93.8%; Score 3586; DB 20; Length 4042; Best Local Similarity 94.6%; Pred. No. 0; Matches 3824; Conservative 0; Mismatches 0; Indels 218;	LENGTH: 4042 TYPE: DNA ORGANISW: Homo sapiens -09-424-686B-1	PRIOR FILING DATE: 1998-06-09 NUMBER OF SEQ ID NOS: 7 SOFTWARE: Microsoft Word EO ID NO 1	FILE REFERENCE: Bayer 10,203 CURRENT APPLICATION NUMBER: US/09/424,686B CURRENT FILING DATE: 1999-11-29 PRIOR APPLICATION NUMBER: PCT/EE98/03468	Wick, Maresa Zubby, Dmitry TUBNTION: Human Catalytic Telomerase Sub-Unit and its TVENTION: Therapeutic Use	RMATION: Hagen, Gustav Siegmund, Han Weichel, Walt	RESULT 15 US-09-424-686B-1 ; Sequence 1, Application US/09424686B	3779 TATGAGTTTTTCAGTTTTGAAAAAAAAAAAAAAAAAAAA	
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3383 AGGCCTGCATGTCCGGCTGAAGGCTGAGTGTCCAGCCTGAGCGAGC	S & S	GGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGC	5 G
3323 GGCGGCCCACACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGAG	ρ <i>γ</i>	AGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCGTGCGCCA	ρ . Q
3263 AGGCCGAGAGCAGCAGCAGCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	Db Qy		B &
3203 ACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCC	dg Qy	2305 AGA 2307	λ δ
3143 AGACGCAGCTGAGTCGGAAGGTCCCGGGGACGCTGACTGA	D Qy	2245 GCGTGCGTCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCA 2304	β &
01	D QY	2185 TCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACT 2244	g &
41	D	2161 AGGACCCGCCGCCTGAGCTGTA	p &
81 63	Db Qy	2101 TGCTGGGCCTGGACGATATCCACAGGGCCTGGCGGCACCTTCGTGCTGCTGCGGGGCCC 2160	ρ Q
21	D	2041 CACTGTTCAGCGTGCTCAACTACGAGCGGGGCGCGCGGGCCCCGGGCCTCCTGGGCGCCTCTG 2100	유
61 43	dg Vy	1981 TGGGAGCCAGAACGTTCCGCAGAGAAAAAGAGGCCGAGCGTCTCACCTCGAGGGTGAAAG 2040	문왕
01 83	p &	1921 GACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCG 1980	B8
41	d dd	1861 AGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCCGCCCTGCTGACGTCCA 1920	B 8
63	, B &	1801 TCTGGAGCAAGTTGCAAAGCATTGGAATCAGACACCACTTGAAGAGGGTGCAGCTGCGGG 1860	B 3
21	o B S	1741 TCTTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTG 1800	B 8
43 61	4d 4d	1681 TCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTAGTCGTCGAGCTGCTCAGGTCTT 1740	유왕
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Qy 3683 AGGTGTGCCCTGTACACAGGCGAGGACCCTGGATGGGGTCCCTGTGGGTCAAA 3742	45	Search completed: March 1, 2004, 22:57:45 Job time : 7781.54 secs	ted: Ma: 81.54 s	Search completed: March Job time : 7781.54 secs	Searc
	2	11	AAAAAA	4021	В
	24	\AAAAAAAAAAAAAAAA 382	AAAAA	3803	Ş
	ATACTGAATATGAGTTTTTCAGTTTTGAAA	GAGGTGCTGTGGGAGTAAA	TTGGGG	3961	B
	ATACTGAATATGAGTTTTCAGTTTTGAAA	GAGGTGCTGTGGGAGTAAA	TTGGGG	3743	δ
	CCCTGCACCTGGATGGGGGTCCCTGTGGGTCA	SCCCTGTACACAGGCGAGGA	AGGTGT	3901	Dβ
	CCCTGCACCTGGATGGGGGTCCCTGTGGGTCA	CCCTGTACACAGGCGAGGA	AGGTGT	3683	Qγ
Db 3841 ACCATCCAGGTGGAGACCCTGAGAAGGACCCTGGGAAGCTCTGGGAATTTGGAGTGACCAA 3900	GACCCTGGGAGCTCTGGGAATTTGGAGTGACCI	CAGGTGGAGACCCTGAGAAC	ACCATO	3841	ф

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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Perfect score:
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11471.157 Million cell updates/sec
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| cgn2_6/ptodata/1/pna/USO6_NEW_COMB.seq:*
| cgn2_6/ptodata/1/pna/USO6_NEW_COMB.seq:*
| cgn2_6/ptodata/1/pna/USO7_NEW_COMB.seq:*
| cgn2_6/ptodata/1/pna/USO8_NEW_COMB.seq:*
| cgn2_6/ptodata/1/pna/USO8_NEW_COMB.seq:*
| cgn2_6/ptodata/1/pna/USO8_NEW_COMB.seq:*
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Copyright (c) 1993 - 2004 Compugen Ltd.
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US-10-767-701-2473
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US-10-767-701-2473

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US-10-767-701-8805
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US-10-767-701-4204

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US-10-767-471-603
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Sequence 8767, Ap
Sequence 25070, Ap
Sequence 25070, App
Sequence 10913, A
Sequence 4186, Ap
Sequence 4186, Ap
Sequence 2473, Ap
Sequence 9739, Ap
Sequence 8805, Ap
Sequence 603, App
Sequence 603, App
Sequence 191, App
Sequence 192, App
Sequence 193, App
Sequence 193, App
Sequence 193, App
Sequence 11639, A
Sequence 1482, App
Sequence 1482, App
Sequence 1482, App
Sequence 1483, Ap
Sequence 2473, Ap
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Sequence 23530, A
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e 5, A	Sequence 142, App	Sequence 4070, Ap	4396,	Sequence 4866, Ap	Sequence 8767, Ap	Sequence 10806, A	Sequence 14298, A	Sequence 28671, A	Sequence 1801, Ap	Sequence 5, Appli	Sequence 20222, A	Seguence 4135, Ap	Sequence 4204, Ap	Sequence 13291, A	•	Sequence 11623, A	Sequence 10516, A	Sequence 11390, A

ALIGNMENTS

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US-10-767-701-8767, Application US/10767701
; Sequence 8767, Application US/10767701
; GENERAL INFORMATION:
    APPLICANT: Kovalic, David K.
    APPLICANT: Zhou, Yihua
    APPLICANT: Cao, Yongwei
; TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
    TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
    FILE REFERENCE: 38-21(53535)8
; FILE REFERENCE: 38-21(53535)8
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; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS56207_1
US-10-767-701-8767
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CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 8767
LENGTH: 1215
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Best Local :
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                                                                                                  328 GCGAGCGCGGCGAAGAACGTGCTGGCCTTCGGCTTCGCGCTGCTGGACGGGGCCCGCG
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Pred. No. 0.00018;
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RESULT 3
US-10-767-701-25070
US-10-767-701-25070
; Sequence 25070, Application US/10767701
; GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21 (53535) B
CURRENT APPLICATION NUMBER: US/10/767,701
; CURRENT APPLICATION NUMBER: US/10/767,701
; SEQ ID NO 25070
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US-10-767-701-4204
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APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT FILIG ADIB: 004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 4204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
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APPLICANT: Kovalic, David K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 192;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
ORGANISM: Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
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; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS106538_1
US-10-767-701-253
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                                                                                                                                                                                        Sequence 253, Application US/10767701

SEQUENCE 253, Application US/10767701

GENERAL INFORMATION:

APPLICANT: Kovalic, David K.

APPLICANT: Chou, Yihua

APPLICANT: Cao, Yongwei

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement

TILE REFERENCE: 38-21(53535)B

FULE REFERENCE: 38-21(53535)B

CURRENT FILING DATE: 2004-01-29

NUMBER OF SEQ ID NOS: 63128

SEQ ID: NO 253

LENGTH: 574
Query Match
Best Local Similarity
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                                                                                                          TYPE: DNA
ORGANISM: Sorghum bicolor
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Sorghum bicolor
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                                                                                                                                                                               LENGTH: 574
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1.5%; Score 56.8; DB 6; 48.0%; Pred. No. 0.00091;
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                     Length 574;
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Matches 192; Conservative

0; Mismatches 207; Indels

1; Gaps

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; FEATURE:
, NAME/KEY: misc feature
; LOCATION: (1)...(40000)
; OTHER INFORMATION: n = A,T,C or G, or insertion/deletion polymorphism (see Tables 1-
US-10-767-471-10913
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US-10-767-471-10913/c
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GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: HABUMATOID ARTHRITIS, METHODS OF DETE
FILE REFERENCE: CL001505
CURRENT APPLICATION NUMBER: US/10/767,471
CURRENT FILING DATE: 2004-01-30
NUMBER OF SEQ ID NOS: 50231
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 10913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local :
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121 AGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTGC 180
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; Sequence 4186, Application US/10767701; GENERAL INFORMATION:
                                                                                 RESULT 7
US-10-767-701-4186
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US-10-767-701-4866
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APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT FILIG ACID NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 4866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4866, Applic
GENERAL INFORMATION:
APPLICANT: Kovalic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 240;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match 1.4%;
Local Similarity 46.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         514 CCGGGCGCCCCGCGAGGCTGGGGGCCGGGGCCGC 546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     648 CGTCTGGGATGCGAACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGC 707
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          335 GTCGCCCCGCTGCTCACGCTGTCCCCCCGGCCGGTCCAGCGGCCTGCCGCCCCGCCCAGC 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         468 GCGTGGGGGCTGCTGCGCGCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGC 527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 408 ACCACCAGCGTGCGCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGG 467
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TACCAGCTCGGCGCTGCCACTCAGGCCCCGCCCCCCCCACACGCTAGTGGACCCCCGAAGG 647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCGCGCTCTTTGTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTG 587
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             David K.
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Pred. No. 0.0029;
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; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS73536_1
US-10-767-701-4186
                                                                                                                                                                                                                                                       Sequence 2473, Application US/10767701

SEQUENCAL INFORMATION:

APPLICANT: KOVALIC, David K.

APPLICANT: Zhou, Yihua

APPLICANT: Cao, Yongwei

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement

FILE REFERENCE: 38-21(53555)B

CURRENT APPLICANTION UNMERS: US/10/767,701

CURRENT FILING DATE: 2004-01-29

NUMBER OF SEQ ID NOS: 63128

SEQ ID NO 2473

LENGTH: 570
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21 (53535) B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 4186
TENETH: 584
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Best Local
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                                              NAME/KEY: unsure
LOCATION: (1)...(570)
OTHER INFORMATION: unsure at all n locations
OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS41826_1
                                                                                                                                                                                       ORGANISM: Sorghum bicolor
                                                                                                                                                                                                                                         TYPE: DNA
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Local Similarity 45.7%;
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APPLICANT: Cao, Yongwei

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535) B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NO 4466
LENGTH: FOO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS80039_1 US-10-767-701-4466
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: DNA
ORGANISM: Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
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Local Similarity 52.9%;
les 137; Conservative
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US-10-767-701-9739
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                                                                                                                                                                                                                                        RESULT 11
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            APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 30024
                                                                                                                                                                                     Sequence 30024, Application US/10767701 GENERAL INFORMATION:
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SEQ ID NO 9739
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APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
                                                                                                                                                    APPLICANT: Kovalic, David K. APPLICANT: Zhou, Yihua
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LENGTH: 522
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Local Similarity 45.0%;
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US-10-767-701-8805
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LENGTH: 667
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                                                                                                                                                                                                                                                                                                              Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement FILE REFERENCE: 38-21(53535)B CURRENT APPLICATION NUMBER: US/10/767,701 CURRENT FILING DATE: 2004-01-29
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 63128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Kovalic,
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ORGANISM: Sorghum bicolor
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                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Sorghum bicolor
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306 GCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGAAGAACGTGCTGGCCTTCGGCTTC 365
                                                                                                                                                                                                                                  126 CTGCCGCTGGCCACGTTCGTGCGGCGCCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGC 185
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                                                                                                                   83 CACCAACCCCTCCTCCACCTCCACCTTCCCACCGGCACTCCCCACGCCTGCTCCACGAC 142
                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                       CTCTCTCTGTATGCGCCATTGCGGCGCCCCGCGGGGCGCCACCACGGCGCCGCCGGCAGCGC 82
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                                       Conservative
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Pred. No. 0.0053;
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEC ID NO 4420
LENGTH: 697
TYPE: ---
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ORGANISM: Sorghum bicolor
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                                                                                                                                  CCAGCGCCGTGGGTCCCCGCGTGGCCACGGGGCCCCCGGGGCCTCCGGCCCGCGGGGGG 433
                      CCCGAGGCCTTCACCACCAGCGTGCGCAGCTACCTGCCCAACACGGTGACCGACGCACTG
                                                                 CGAAGAACGTGCTGGCCTTCGGCTTCGCGCTGCTG----GACGGGGCCCGCGGGGGCCCCC
                                                                                                            AGGTGTCCTGCCTGAAGGAGCTGGTGGCCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCG 339
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Pred. No. 0.0079;
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RESULT 14
US-10-767-471-195/c
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GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: RHEUMATOID ARTHRITIS, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CLOO1505
CURRENT APPLICATION NUMBER: US/10/767,471
CURRENT FILING DATE: 2004-01-30
NUMBER OF SEQ ID NOS: 50231
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 195
LENGTH: 14800
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ORGANISM: Homo sapiens
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548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607
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Pred. No. 0.031;
3; Mismatches 366; Indels 14;
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Search completed: March 1, 2004, 23:56:46 Job time: 58:1579 secs
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US-10-767-471-603/c
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; ORGANISM: Homo sapiens
US-10-767-471-603
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GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: RHEUMATOID ARTHRITIS, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CLOO1505
CURRENT APPLICATION UNMEER: US/10/767,471
CURRENT FILING DATE: 2004-01-30
NUMBER OF SEQ ID NOS: 50231
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 603
LENGTH: 11409
TYDER: NAM
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                                                                                                    1583 GTGCCCGCCCCAGCCTCCCCCCCAGCAGCCACAGCCACGTGTTCCTCCTGC 1528
                                                                                                                                                                                                     1643 GCCAGCGCTCCAGCTSCCGCTCTGCCTCCTCRCGCGCCCCGGCCTCRGCCTGCTGCT 1584
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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Perfect score:
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Gapop 10.0 , Gapext 1.0
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Copyright (c) 1993 - 2004 Compugen Ltd.
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ALIGNMENTS

TITLE	AUTHORS	REFERENCE	JOURNAL	TITLE				AUTHORS	REFERENCE			ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION		DEFINITION	Locus	AY407349
Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M. Direct Submission	Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A.,	14671302	gene trios Science 302 (5652), 1960-1963 (2003)	Inferring nonneutral evolution from human-chimp-mouse orthologous	Adams, M.D. and Cargill, M.	Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J.,	Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B.,	Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A.,	1 (bases 1 to 1826)	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	Homo sapiens	Homo sapiens (human)	GSS.	AY407349.1 GI:39763320	ĀY407349 -	genomic survey sequence.	Homo sapiens TERT gene, VIRTUAL TRANSCRIPT, partial sequence,	AY407349 1826 bp DNA linear GSS 15-DEC-2003	

dg VQ	g V	D QY	d Qy	δ α	90 90	B &	D Qy	B 8	A 4	B 8	g &	40	B 8	Query Best 1 Match	gei ORIGIN	sot	JOURNAL COMMENT FEATURES
2248 TGCGTCGGTATGCCGTGGTC 2267	TCATCAAACCCCAGAACACGTACTGCG CCTTGACAGACCCCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGAGACCAGCC	2221 2220		2176 AGCTGTACATCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCA 2220	ATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCCGCCGCTG	2056 TCAACTACGAGCGGGGGGGGGCCCCGGGCCTCCTGGGCGCCTCTGTGGGCCTGGGCCCTGGACG 2115	1996 TCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTTCAGCGTGC 2055	1936 CCAAGCCTGACGGGCTGCCGCCGATTGTGAACATGGACTACGTCGTGGGAGCCAGAACGT 1995	1876 AGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCCTGCTGACGTCCAGACTCCGCCTTCATCC 1935	1816 AAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCCAGCTGCGGGAGCTGTCGGAAGCAG 1875	1756 AGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAAGCAAGTTGC 1815	1696 TGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT	1636 GGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGCCAAGTTCC 1695	Query Match 32.8%; Score 1255.4; DB 29; Length 1826; Best Local Similarity 82.6%; Pred. No. 8e-145; Matches 1509; Conservative 0; Mismatches 99; Indels 218; Gaps 2;	ene <1.".>1826 /gene="TERT" /locus_tag="HCM2861"	urce	AL Submitted (16-NOV-2003) Celera Genomics, 45 West Gude Drive, Rockville, MD 20850, USA This sequence was made by sequencing genomic exons and ordering them based on alignment. S Location/Cualifiers
RESULT 2 AY407350 LOCUS	Db Qy	β Q	å V	da Ya	y dd (y	d dy	B 5) B (S B 6) B 5	B 2	S & &	, B &	, p. 6	ρ જ	Qy dd	QQ dd
LT 2 7350 AY407350 1584 bp DNA linear GSS 15-DEC-2003	3218 CAGACTTCAAGACCATCCTGGACTGA 3243	3158 GAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGAGCCAACCCGGCACTGCCCT 3217	3098 ACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCAGCTGAGTC 3157	TGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCAAGCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCAAGCATTCCTGCACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCTGACCAAGCATTCCTGCACAAGCATTCCTGACCAAGCATTCCTGACCTGAACCAACC	8 CCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGGCCAAGGGCCGGCC		TUCTIGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCCATTTCATCAGCAAG	TOTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT		A ACTACTCCAGETATECCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCGCGCTTCA	ACCOUNT TO CONTROL OF THE PROPERTY OF THE PROP	o 1∸ œ	98 GGACCCTGGTTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCCGAAGACAGTGG 81 GGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAAGACAGTGG 62 GGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGAACTTGCCGAAAGACAGTGG	8 GTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCA	2378 GCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCTGCTCCTGC 2437 	2318 ACGTCCAGTGCCAGGGATCCCGCAGGCTCCATCCTCTCCACGCTGCTCTGCAGCCTGT 2377	2268CAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGGCAAGTCCT 2317

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0y 11 0b 1 0y 11 0b 2 0y 20	09 11 09 11 15 15 15 15 15 15 15 15 15 15 15 15	Qy 16 Db 17 Db 1	Query Match Best Local S Matches 1239 Qy 1636 Db 1	gene	JOURNAL COMMENT FEATURES source	JOURNAL PUBMED REFERENCE AUTHORS	DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGANISM REFERENCE AUTHORS
CCAAGCCTGACGGGCTGCGGGCCGATTGTGAACATGGACTACGTCGTGGGAGCCAGAACGT 1	816 ANAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCCGGAGGCTGTCGGAAGCAG 1875	696 TGCACTGGCTGATGAGTGTGTACGTCGTCGAGGTGCTCACGTCTTTTATGTCACGG 1755	15.6%; Score 980; DB 29; Length 1584; 231 Similarity 78.2%; Pred. No. 5e-111; 1239; Conservative 0; Mismatches 127; Indels 218; Gaps 2; 1636 GGGTGGCTGTGTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGCCAAGTTCC 1695	mic DNA" 1:9598"		gene trios Science 302 (5652), 1960-1963 (2003) 14671302 2 (bases 1 to 1584) Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Perriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M. Direct Subbission	Pan troglodytes TERT gene, VIRTUAL TRANSCRIPT, partial sequence, genomic survey sequence. AY407350 AY407350.1 GI:39763321 GSS. Pan troglodytes (chimpanzee) Pan troglodytes Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan. 1 (bases 1 to 1584) Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Perriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M. Inferring nonneutral evolution from human-chimp-mouse orthologous
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CCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGCCAGAACGT	QY 1876 AGGTCAGGCATCGGGAAGCCAGGCCCGCCCTGACGCTCCAGACTCCGCCTTCATCC 1935	OY 1816 AAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGGTGCGGGAAGCTGTCGGAAGCAG 1875	OY 1756 AGACCACGITTCAAAAGAACAGCITCTITTTCTACCGGAAGATGTCTGGAGCAAGTTGC 1815	1696 RECACTEGETEGATEGETEGACETCGTCGAGGTCTTTCTTTTATGTCACGG	1636 GGGTTGGCTGGGCTGGGCGAGGACCGCTGGGCGAGAGACCTTGGCCAAGTTCC 1 GGAAGGACCGTGTCCCCGCTGCAGAGCACCGTCTGAGGAAGATCCTGGCTACGTTCC 1 GGAAGGACCGTGTCCCCGCTGCAGAGCACCGTCTGAGGAAGAAGATCCTGGCTACGTTCC	Query Match 16.4%; Score 628.2; DB 29; Length 1835; Best Local Similarity 61.5%; Pred. No. 6.9e-68; Matches 1128; Conservative 0; Mismatches 480; Indels 227; Gaps	gene <11835 /gene="TERT" /locus_tag="HCM2861"	0	them based on alignment. S Location/Qualifiers	Rock				Adams, M.D. and Cargill, M. TITLE Inferring nonneutral evolution from human-chimp-mouse orthologous	Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J.,	Sutheria; Rodentia; to 1835) Glanowski S. Wiel	Chordata; Craniata; Vertebrata; Euteleosto		ACCESSION AY407351.1 GI:39763322	AY407351 ON Mus musculus TERT gene	RESULT 3 AY407351	Db 1561 CCATCCTGANAGCCCAAGAACGCAG 1584	QY 2978 CCATCCTGAAAGCCAAGAACGCAG 3001
Qy 2791 CACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGTGTGCACCAACATCTAC 2850	Db 1321 GTCTTCAAAGCTGGAAGAACATGCGTCGGAAACTCTTTGGGGTTCAAGTGT 2/90	20/1 CHARGO GALLACIT CHACUS ALTO CONTROL CANDER CAN	1201 CCTGCTCACTGCCTGTTTCCCTGGTGTGGCTTGCTGCTGGACACTTTGGAGGTG	Db 1141 ACAGTGGTGAACTTCCCTGTGGAGCCTGGTACCCTGGGTGGTGCAGCTCCATACCAGCTG 1200 2611 CCGGCCCACGGCTATTCCCCTGGTGGACCTGCTGCTGCATACCCGGACCCTGGAGGTG 2670	Db 1081 TTCCTCAGCACCCTGGTCCATGGCGTTCCTGAGTATGGGTGCATGATAAACTTGCAGAAG 1140 Qy 2551 ACAGTGGTGAACTTCCCTGTAGAAGACGACGGCCTGGGGTAGGCACGGCTTTTGTTCAGATG 2610	Qy 2431 CTCCTGCGTTTGGTGATGATTTTCTTGTTGGTGACACCTCACCCCACGCGAAAACC 2490 Option	71 AGCTTGTGCTACGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGACCGGCTG	Qy 2311 AAGTOCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCCACGCTGCTCTGC 2370	Db 841 NRKKNINKKNINKKNINKKNINKKNINKKNINKKNINKK	Qy 2302TCAAGAGGC 2310	781 GCCAGTGCACTGAGGAACTCCGTTGTCATCGAGCAGNNNNNNNNNN	Db 721 ACCCTCTCTGACCTCCAGCCATACATGGGCCAGTTCCTTAAGCATCTGCAGGATTCAGAT 780	2274	Qy 2274 2273	DD 601 NAKKNINININININININININININININININININI	Qy 2235 AACACGTACTGCGTGCGTGGTGTGCCGTGGTCCAGAAG 2273	541 AGGATGTACTTTGTTAAGNNNNNNNNNNNNNNNNNNNNNN	2175 GAGCTGTACATCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCAACCCCCAG	CY	421 CTCAÁCTÁTGAGCGGACAAAACATCCTCACCTTATGGGGTCTTCTGTACTGGGTATGAÁT	QY 2055 CTCAACTACGAGCGGGGGGGGGGCGCCGGGCCTCTGGGGCCTGGAC 2114	TGGGCAGAAGGAAGGAAGGCCAGGCATTTCACCCAGCGTCTCAAGACTCTCTTCAGCATG	

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Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 468)
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                                                                                                                                                                                                                                                              High quality sequence stop: 416.
                                                                                                                                                                                                                                                                               www-bio.llnl.gov/bbrp/image/image.html
Seq primer: -40UP from Gibco
                                                                                                                                                                                                                                                                                                                                                                 Tissue Procurement: Chris Moskaluk, M.D., Ph.D., Michael R. Emmert-Buck, M.D., Ph.D. cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: Christa Prange, The I.M.A.G.B. Consortium DNA Sequencing by: Washington University
                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
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                                              /clome_lib="NCI_CGAP_Lu28"
/clome_lib="NCI_CGAP_Lu28"
/note="Organ: lung; Vector: pCMV-SPORT6; Site_1: Sall;
Site_2: NotI; Cloned unidalrectionally. Primer: Oligo of the constructed by Life Technologies."
                                                                                                                                                                       /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                      /tissue_type="two pooled squamous cell carcinomas"
/lab_host="DH10B"
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                                                                                                                                                        clone="IMAGE:2817244"
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12.2%; Score 465.4;
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3752 GGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTTGAA 3799
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Korea Research Institute of Bioscience & Biotechnology
Korea Research Institute of Bioscience & Biotechnology
52 Eoeun-dong Yuseong-gu, Daejeon 305-333, South Korea
Tel: +82-42-860-4470
Fax: +82-42-860-4409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 492)

Kim,N.S., Hahn,Y., Oh,J.H., Lee,J.Y., Ahn,H.Y., Chu,M.Y., Kim,M.R., Oh,K.J., Cheong,J.E., Sohn,H.Y., Kim,J.M., Park,H.S., Kim,S. and
                                                                                                                                                                                                                                                                                                                                             Email: yongsung@mail.kribb.re.kr
Plate: 99 row: E column: 07
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                                                                                                                                                                                                                                                                              quality sequence stop: 492.
Location/Qualifiers
/cell_type="Lymphoblast-like"
/cell_line="SNU-16"
                                                                  /tissue_type="Ascites"
                                                                                                                                                        /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                             clone="S22SNU16n1-99-E07"
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                                                                                                               Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                             NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. (bases 1 to 925)
                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BM453198 925 bp mRNA linear EST 05-FEB-200;
AGENCOURT 6387556 NIH MGC 71 Homo sapiens cDNA clone IMAGE:5529840
cDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium LINL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can
                                                                                                                                                                     Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                               Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                         BM453198.1 GI:18502238
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 851) NIH-MGC http://mgc.nci.nih.gov/.
                                                                                                                                                                                              BG917907 851 bp mRNA linear EST 05-JUN-2001
6028830F1 NCI_CGAP_Mam6 Mus musculus cDNA clone IMAGE:4949887 5',
                                                                              Mus musculus
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plate: LLAM12208 row: p column: 01
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/tissue_type="leiomyosarcoma"
/lab host="DH10B (phage resistant)"
/clone_lib="NIH_MGC_71"
/clone_Tib="NIH_MGC_71"
/note="Organ: uterus; vector: pCMV-SPORT6; Site_1: Not1;
Site_2: Sall; Cloned unidirectionally. Primer: Oligo dT.
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Pred. No. 6.5e-45;
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Plate: LLAM10903 row: k column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tissue Procurement: Jeffrey Green M.D. cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   National Institutes of Health, Mammalian Gene Collection (MGC)
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Clone distribution: MGC clone distribution information can be cound through the I.M.A.G.B. Consortium/LLNL at:
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/tissue type="infiltrating ductal carcinoma"
/dev stage="5 months"
/lab host="DH10B"
/clone_lib="NCI_CGAP_Mam6"
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71.9%;
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Best Local .
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                                                                                     3443 ААGGGCTGAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTC 3502
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356 AAGGGCTGAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTCGGCTC
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High quality sequence stop: 413.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
www-bio.llnl.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 416)

NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
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Technologies, Inc. cDNA Library Arrayed by: Christa Prange, Th
I.M.A.G.E. Consortium DNA Sequencing by: Washington University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Chris Moskaluk, M.D., Ph.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Robert Strausberg, Ph.D.
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                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone lib="NCI CGAP Lu28"
/note="Organ: lung; Vector: pCMV-SPORT6; Site_1: SalI;
Site_2: NotI; Cloned unidirectionally. Primer: Oligo dT.
Library constructed by Life Technologies."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          organism="Homo sapiens"
(mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tissue_type="two pooled squamous cell carcinomas"
lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'clone="IMAGE:2759711"
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                                                                                                                                                                                                                                                                                                                                                                                  10.9%; Score 416; DB 10; Length 416; 100.0%; Pred. No. 1.1e-41;
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AGARTICGCCATTGTTCACCCGCTCGCCCTCCCCTCCCCCCCCCC	ORIGIN	This clone IMAGE Conso Insert Leng Seg primer: Seg primer: High quality FEATURES 1.	JOURNAL Unpublished COMMENT Contact: Rol Email: cgapl	REFERENCE 1 (bases 1 AUTHORS NCI-CGAP ht TITLE THREE CEA	ACCESSION AA281296 VERSION AA281296.1 G: KEYWORDS EST. SOURCE Homo sapiens ORGANISM Homo sapiens	RESULT 9 AA281296 LOCUS DEFINITION Zt08902.r1	Qy 3743 TTGGGGG	Qy 3683 AGGTGTG Db 116 AGGTGTG	3623 176	Qy 3563 TCCATCC	296 CACCCCA 296 CACCCCA
	L_type="mank" _xref="taxon:9606" _type="mank"	hrough LLNL ; contact for further informati am	hed (1997) Robert Strausberg, Ph.D. Japbs-r@mail.nih.gov	<pre>Metazoa; Chordata; Craniata; Vertebrata; Eute Sutheria; Primates; Catarrhini; Hominidae; Hom [to 389] tp://www.ncbi.nlm.nih.gov/ncicgap. Inder Institute, Cancer Genome Anatomy Project Todo:</pre>	ICE. GI:1924194 18 (human) 18 (human)	I_CGAP_GCB1 Homo sapiens cDNA linear EST 14-AUG-19	TIGGGGGGAGGIGCTGIGGGAGIAAAAIACIGAATATATGAGTITTICAGTITITGA 3798 	74	GAGAAGGACCCTGGGAACTCTGGGAATTTGGAGTGACCAA 	→ (4)	CACCCCAGGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAG 3562

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Matches 387; Conserv

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10.1%; Score 385.8; DB 9; Length 389; 99.5%; Pred. No. 5.8e-38;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
CDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BU702370
851 bp mRNA linear EST 15-JUL
UI-M-FIO-byx-f-12-0-UI.rl NIH BMAP_FIO Mus musculus cDNA clone
IMAGE:6400523 5', mRNA sequence.
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National Institutes of Health, Mammalian Gene Collection (MGC)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BU702370
BU702370.1 GI:23627105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGGTGCAGCTGCGGGAGCTG 1865
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCAGAACGTTCCGCAGAGAAAAGAGGGCCCGAGCGTCTCACCTCGAGGGTGAAGGCACTG 2045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCTTCATCCCCAAGCCTGACGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGA 1985
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer: pYX-5
/tissue_type="whole brain"
/dev_grage="mbtyo 12.5dpc"
/lab_host="MH10B (T1 phage resistant)"
/clone_lib="NH1BMAP_FIO"
/clone_lib="NH1BMAP_FIO"
/note="Organ: Brain; Vector: pYX- Asc; Site_1: EcoR I;
/note="Organ: Brain; Vector: pYX- Decorating Site_2: Not I; The library was constructed according Bonaldo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured RNA was size fractionated on a 1% agarose
                                                                                                                                                                                                                                                      /organism="Mus musculus"
/mol_type="mRNA"
/strain="C57BL/6"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                          location/Qualifiers
                                                                                                                                                                                                                              clone="IMAGE: 6400523"
                                                                                                                                                                                                                                                                                                                                                                     . .851
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DEFINITION
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2366 TCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACG 2425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2306 GAGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGC 2365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                802 TATACAAGATCTTCCTGCTTCANGGCTACAGGTTCCATGCATGTGTGAT 850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         382
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                262 GTGACAGGTGCTATACGCAGTGCCAGGGCATCCCCAGGGCTCCAGCCTATCCACCCTGC 321
                                                                                                                                                                                                                                                                                                                                           CF531121 688 bp
UI-M-FY0-cgp-m-21-0-UI.r1 NIH BMA
IMAGE:30355988 5', mRNA sequence.
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus (bases 1 to 688)
                                                                                                                                                                           Mus musculus
                                                                                                                                                                                                                                                                                 CF531121.1 GI:34583085
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTGTCACGGTCTATTTCTAGACTTGCAGGTGAACAGCCTCCAGACAGTCTGCATCAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGTGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACA 2845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGGTCTTGCCGCCTGA 2785
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGAAGACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTC 2605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGC 2545
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ANACCTTCCTCAGCACCCTGGTCCATGGCGTTCCTGAGTATGGGTGCATGATAAACTTGC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGTTGCTTTTACGTTTTGTTGATGACTTTCTGTTGGTGACGCCTCACTTGGACCAAGCAA
                                                                                                                                                                                                               musculus (house mouse)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9.9%;
77.6%;
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뮍 Ş 밁 Ś 밁 Ś 밁

REFERENCE AUTHORS TITLE

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467 GGCGTGGGGGCTGCTGCCGCCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACG 526

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   243
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Tissue Procurement: Dr. Jim Lin, University of Iowa
CDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Distribution information can be found at
http://genome.uiowa.edu/distribution/mousefl.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Seq primer: pYX-5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (1999)
                                                                                                                                                                                                                                                                                                                          ATCCCTGAAAGAGCTGGTGGCCAGGGTTGTGCAGAGACTCTGCGAGCGCAACGAGAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This clone was contributed by the Brain Molecular Anatomy Project
CACTAGTAGCGTGCGTAGCTACTTGCCCAACACTGTTATTGAGACCCTGCGTGTCAGTGG
                                                                                CACCACCAGCGTGCGCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGG
                                                                                                                                                             CGTGCTGGCTTTTGGCTTTGAGCTGCTTAACGAGGCCAGAGGCGGGCCTCCCATGGCCTT
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/lab host="PHH10B (TI phage resistant)"
/clone_lib="NIH_BMAP_FYO"
/clone_lib="NIH_BMAP_FYO"
/note="Torgan: Brain; Vector: pYX- Asc; Site_1: EcoR I;
/note="Torgan: Brain; Vector: pXX- Asc; Site_1: EcoR I;
/note="Torgan: pxx- Asc; Site_1: EcoR I;
/note="Torgan: Brain; Vector: pxx- Asc; Site_1: EcoR I;
/note="Torgan: Brain; 
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73.9%;
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Pred. No. 3.6e-33;
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REFERENCE
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                                                                                                                                                                 Query Match
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                                 Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Distribution information can be found at
http://genome.uiowa.edu/distribution/mousefl.html
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National Institutes of Health, Mammalian Gene Collection (MGC)
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                                                                                        Conservative
                                                                                                                                                                                                                                                     /notes Torgan: Evally Vector: pYX- Asc; Site 1: EcoR I;
/notes Organ: Brain; Vector: pYX- Asc; Site 1: EcoR I;
/site 2: Not I; The library was constructed according
Bonaldo, Lennon and Soares, Genome Research, 6:791-806,
1996. Denatured RNA was size fractionnated on a 1% agarose
gel. First strand cDNA synthesis was primed with oligo-dr
primer containing a Not I site. Double strand cDNA was
size selected according to mRNA size fraction, ligated
with EcoR I adaptor, digested with NotI and then cloned
directionally into pYX-Asc vector. The library teal
sequence located between the Not I site and the polyA tail
is AGCGAGACAG. This library was created for the University
Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH), Hemin Chin, Ph.D.,
program coordinator."
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/dev_stage="embryo 13.5,14.5,16.5,17.5dpc"
/lab_host="DHIOB (TI phage resistant)"
/clone_lib="NIH_BMAP_FYO"
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/clone="IMAGE:30355746"
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                                                                                                                                   8.9%;
      Score 340.4; DB 14; Length Pred. No. 1.9e-32; 0; Mismatches 121; Indels
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Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000) wagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Watahiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 (bases 1 to 599)
Arakawa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T.,
Hara, A., Hiramoto, K., Hori, F., Ishii, Y., Ito, M., Kawai, J.,
Konno, H., Kouda, M., Koya, S., Matsuyama, T., Miyazaki, A., Nomura, K.,
Ohno, M., Okazaki, Y., Okido, T., Saito, R., Sakai, C., Sakai, K.,
Sano, H., Sasaki, D., Shibata, K., Shinagawa, A., Shiraki, T.,
Sogabe, Y., Suzuki, H., Tagami, M., Tagawa, A., Shiraki, F.,
Takeda, Y., Tanaka, T., Toya, T., Muramatsu, M. and Hayashizaki, Y.
RIKEN Mouse ESTB (Arakawa, T., et al. 2001)
Unpublished (2001)
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URL.http://genome.gsc.riken.go.jp/
Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K.,
                                                                                                                                                                                                                                                                                                                                                Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
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S99 bp mRNA linear EST 26-OCT-:
BB618671 RIKEN full-length enriched, 8 days embryo Mus musculus
cDNA clone 5730412M20 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Yoshihide Hayashizaki
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                 Fax: 81-45-503-921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (house mouse)
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Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) Kondo,S., Shinagawa,A., Saito,T., Kiyosawa,H., Yamanaka,I., Alzawa,K., Fukuda,S., Hara,A., Itoh,M., Kawai,J., Shibata,K. and
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Please visit our web site (http://genome.gsc.riken.go.jp) for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human Genome Sequences.
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                                                                                  CCGCTGGCAACCTTTGTGCGGCGCCTGGGGCCCGAGGGCAGGCGGCTTGTGCAACCCGGG
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                                                 CAGCCTCCACCTGCCGACCTTTCCTTCCACCAGGTGTCATCCCTGAAAGAGCTGGTGGCC 360
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/notee "Site 1: Sall; Site 2: BamHI; cDNA library was
prepared and sequenced in Mouse Genome Encyclopedia
Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in
RIKEN. Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contributed to prepare
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|mol_type="mRNA"
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'lab_host="DH10B"
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9 GCCTAACTTGACTGGGGCCAGGAGACTGGTGGAGATCATCTTTCTGGGCTCAAGGCCTAG
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Clone distribution: NCI-CGAP clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: cgapbs-r@mail.nih.gov
cDNA Library Preparation: J. Baker (Stanford University)
cDNA Library Arrayed by: The I.M.A.G.E. Consortium/LLNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NISC_kp11g04.q3 Baker mouse embryo IMAGE:5409222, mRNA sequence.
                                                                                                             Similarity
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Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (house mouse)
Mus musculus
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BQ258274.1 GI:20459030
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    found through the I.M.A.G.E. Consortium/LLNL at: infc@lmage.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Robert Strausberg, Ph.D.
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                                                                         Conservative
                                                                                                                                                                                       /tissue_type="embryo, late gastrula"
/dev_stage="embryo, 7.5 dpc"
/lab_host="XL1-Blue"
/clone_lib="Baker mouse embryo e7.5"
/clone_lib="baker mouse embryo e7.5"
/note="Vector: pCS105; Site 1: NotI; Site 2: SalI; cDNA
made by oligo-dT priming. DTrectionally cloned into
SalI/NotI sites using the following 5' adaptor:
5'-TCGACCCACGCGTCCG-3'. Size-selected for average insert
size 1.8-1.9 kb. Library constructed by J. Baker (Stanford
University)."
                                                                                                                                                                                                                                                                                                                                                                                                           clone="IMAGE:5409222"
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                                                                              Score 317.8; DB 13; Length 664; Pred. No. 1.1e-29; 0; Mismatches 177; Indels 45; Gaps
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CDNA Library Arrayed by: Greg Lennon, Ph.D.

DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
www-bio.llnl.gov/bbrp/image/image.html
Insert Length: 2249 Std Error: 0.00
                                                                                                                                                  Tissue Procurement: Louis M. Staudt, M.D., Ph.D., Ph.D., Gerald Marti, M.D.
Ph.D., Gerald Marti, M.D.
Ph.D., Library Preparation: M. Bento Soares, Ph.D.,
                                                                                                                                                                                                                      Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                     Unpublished (1997)
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NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Copyright (c) 1993 - 2004 Compugen Ltd.
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SUMMARIES

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AX003121 4042 bp DNA Sequence 2 from Patent WO9933998. AX003121 AX003121.1 GI:9926983

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90 QQ QQ QQ	20 DD V9	Db .	υb Qy Db	QQ VQ	Qγ	D QY	Query Ma Best Loc. Matches : Qy	FEATURES SOURC	AUTHORS TITLE JOURNAL	EYWORDS OURCE ORGANIS
601 CTGCCACTCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCG 660	481 TGCTGGCCCGGCTGGGCACGACGTGCTGGTTCACCTGCTGGCACGCTCTTTG 540 481 TGCTGCCCCGCTGGGCACGACGTGCTGGTTCACCTGCTGGCACGCTTCTTG 540 481 TGCTGCTGCGCCTGCGACGACGACGTGCTGGTTCACCTGCTGGCACGCTGCTGCCGCTTTTG 540 541 TGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGCGCCGCTGTACCAGCTCGGCG 600 541 TGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGCCGCTGTACCAGCTCGGCG 600	361 GCTTCGCGGCTGCTGGACGGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGC 420	6-6	81 AGCGC 81 AGCGC 81 AGCGC	1 AGGIGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTGC	TECOTES OF THE PROPERTY OF THE	tch al Similarity 90.0%; Pred. No. 0; al Similarity 90.0%; Pred. No. 0; 3645; Conservative 0; Mismatches 359; Indels 46; Gaps 1 GTTTCAGGCAGCTGCTGCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCG 6 1 GTTTCAGGCAGCTGCTGCTGCTGCTACTGCTAAAGCCCTTGGCCCCGGCCACCCCCG 6 1 GTTTCAGGCAGCAGCTGCTGCTACTGCTAAAGCCCTTGGCAAGCCCCGGCAAGCCCCCG 6	WICK MAKESA (DE); LOCATION QUALIFIERS Ce 14042 /organism="Homo sapiens" /mol_type="unassigned DNA" /db_xref="taxon:9606"	Wick, M. and Hagen, G. Wick, M. and Hagen, G. Regulatory dna sequences of the human catalytic telomerase sub-unit gene, diagnostic and therapeutic use thereof Patent: WO 9933998-A 2 08-UUL-1999;	Homo sapiens (human) M Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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PN JP 1992531

PD 21-SEP-1999

PF 15-OCT-1998

PR 01-OCT-1996

25-APR-1997 US

09-MAY-1997 US

14-AUG-1997 US
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                                                                                                                                                                                                                                                                                          SECHI, JOCHIMU RINGNER, TORU NAKAMURA, KAREN B CHAPMAN,
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15-0CT-1998 JP 1998320169
01-0CT-1996 US 08/724.643,18-APR-1997 US 08/854.419
01-0CT-1996 US 08/846.017,06-MAY-1997 US 08/851.831, PR
PR-1997 US 08/854.050,14-AUG-1997 US 08/911.312, PR
03/915.503 PI
UG-1997 US 08/912.951,14-AUG-1997 US 08/915.503 PI
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C12Q1/48,C12Q1/68,G01N33/15,G01N33/48,G01N33/50//C07K14/47, PC
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                                                                                                                                                                                                                                                           CALVIN B HAREI, WILLIAM H ANDREWS
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Qy 3128 TCAGGAAGTTTGGAAGAACCCCACATTTTTCCTGCGGGTCATCTCTGACACGGCCTCCCT 3187	2048 CAGCGTGCTCAACTACGAGCGGGCGCGGCGCCCCGGGCCTCCTGGGCGCCTCTGTGCTGGG
QY 3068 CAAGATCCTCCTGCTGCAGGCGTACAGGTTCACGCATGTGTGCTGCAGCTCCCATTTCA 3127	OY 1988 CAGAACGTTCCGCAGAGAAAAGAGGGCCCGAGGGTCTCACCTCGAGGGTGAAGGCACTGTT 2047
300 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 3 3001 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 3	QY 1928 CTTCATCCCCAAGCCTGACGGGCTGCGGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987
2948 CGGCTTCAAGGCTGGGAGGAACAACTCTTTGGGGTTTTTGCGGCTTTTTGCGAAGTG 300 2941 CGGCTTCAAGGCTGGGAAGAACTCTTTTGGGGTTTTTTGCGGCTGAAGTG 300 2941 CGGCTTCAAGGCTGGGAAGACATCCTTTTGGGGTTTTTTTT	QY 1868 GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC
2888 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCACTCTAACCTTCAACCG	OY 1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867
2828 2821	OY 1748 TGTCACGGAGACACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807
2768 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCTGGGTGGCACGGCTTTTGTTCAGAT	OY 1688 CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGTCTTTCTT
⊢ ∞	OY 1628 GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687
2648 GCTCCIGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCT	OY 1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGAGACTGCGCTTGGCTGCGCAG 1627
2588 CAGCCUGUGCTACCGGGACATGGAGACAAGCTGTTTGCGGGGATTCGGCGGGACGGGCT 	OY 1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567
2528 CAAGTICTAGGTCCAGTGCCAGGGATTCCTGCAGGTTCCTCTCCAGGTTCCTCTGCAGGTTCCTCTGCAGGTTCCTCTGCAGGTTCCTCTGCAGGTTCCTCTGCAGGTTCCTCTGCAGGTTCCTGCAGGTTCTTGCAGGTTCTTGCAGGTTCTTGCAGGTTCTTGCAGGTTCTTGCAGGTTCTTGCAGGTTCTTGCAGGTTCTTGCAGGTTCTTTG	OY 1448 CGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA 1507
2468 CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGGG	OY 1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACCAGCACCCCTGGCAGGTGTA 1447 Db: 1381 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACCAGCACCCCTGGCAGGTGTA 1440
2408 GACCAGCCCGTGAGGGATGCCGTCGTCGTCCTCCCTGAATGAGCCCAG	QY 1328 AGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGAAGAA 1387
2348 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTTCCAGGA	QY 1268 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGGCTGCGAGCTGCCGGTCACCCCAGC 1327
– 8	OY 1208 GCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267
2228 GEACHGECTEACHGHAST CHICGECHGEATEACHCEAGACHCGHACHGEGTGCG	OY 1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT 1207
2100 GCCGCCTGAGCTGTACTTTCTCAAGGTGGATGTGACGGCGGTACGACACCATCCCCCA 2101	QY 1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTGGAGGCTCGTGGA 1147
2101 CCTGGACGATRICCACAGGGCCTGGCGCCACCTTCGTGCTGCTGCGGGCCCAGGACCCC	QY 1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087
Db 2041 CAGCGTGCTCAACTACGAGCGGGGCGCGCGCGCCCCGGGCCTCTGGGCGCCTCTGTGCTGC	Db 961 GCACCACGCGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1020

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Promoter for telomerase reverse transcriptase
Patent: US 6610839-A 343 26-AUG-2003;
Location/Qualifiers
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3008 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGTGTGCACCACACATCTA 3067	B &	1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987
	dg VQ	1868 GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC
GCAGAGCACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCG	B &	1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867
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GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT	Db	1688 CAAGTTCCTGCACTGACTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT
2708 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGAACTTGCGGAA 2767 	, pb	1628 GAGCCCAGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687
2648 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGAAAAC 2707	рь	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCAG 1627
	Db Db	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567
2528 CAAGTCCTACTCCACTGCCACGGATCCCGCAGGGCTCCATCCTCCACGCTGCTCTG 2587	Db	1448 CGGCTTCGTGCGGGCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA 1507
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2408 GACCAGCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAG 2467	g Q	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGA 1387
2348 CGTCTTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 2407	p &	1268 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 1327
2288 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCA 2347	B &	1208 GCCCARGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267
2228 GACAGCTCACGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGTGCG	d Qy	1148 GACCATCTTTCTGGGTTCCAGGCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCGC 1207
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CTIG	dg Qy	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087
CAGCGTGCTCAACTACGAGCGGGGCGCGGGGCCCCGGGCCTCCTGGGGGCCTCTGTGCTGGG 	B 5	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027
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Cells immortalized with telomerase reverse transcriptase for 1 drug screening expension of the control of the con
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0-0	B &	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087
0-0	5 B 8	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027
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                                                                                  3990 ААААААААААААААААААААА 4012
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                                                                                                                                                                                                                                                                                                                                                              3833 CACCATCCAGGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTTGGAGTGACCA 3892
                                                                                                                                                                                                                                                                                                                                                                                                                   3810 TTTCTGTGTGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCA 3869
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3421 ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCAGGCCGA 3480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3361 GCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCAGCCCAACCCGGC 3420
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                                   4013 AAAAAAAAAAAAAAAAAAAAA 4035
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                                                                                                                                             ATTGGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGRAAA 4012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCAGATTC--GCCATTGTTCACCCYTCGCCCTGCCYT-----CCTTTGCCTTCCACCCC 3832
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                                                                                                                                                                                      ATTGGGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTTGAAAA 3989
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                                                                                     181 GGACCCGGCGTTTCCGCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCCCTGGGACGC
                                                                                                                                                                                               121
                                                                                                                                       128 GCCGCTGGCCACGTTCGTGCGGCCCCTGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 187
                                                                                                                                                                                                                                                                                                         61 GCGCGCTCCCCCGCTGCCGAGCCGTGCGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT
                                                                                                                                                                                                                                                                                                                                                           68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B GCAGCGCTGCGTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGGGATGCC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Harley, C.B. and Andrews, W.H.
Human telomerase catalytic subunit
Patent: EP 1333094-A 343 06-AUG-2003;
Geron Corporation (US); University T
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG
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AAFRALVAQCLYCVPMDARPPPAAPSFRQVSCLKELVARVOGRICEGAKNVLAFGFA
LLDGRAGGPEBAFTTSVRSYLBUTYDLAFKGGAMGLLKRVODVLYHLLARCALFV
LVAPSCAYQVCGPPLYQLGAATQARPPPHASGPRRIGGERAMHSVREAGVPLGIPA
PGARRRGGSASRSIPLEWRYPDAFBAGPRRIGGERAMHSVREAGVPLGIPA
PGARRRGGSASRSIPLEWR PRAGAAFBEPERTFYVGQGSWAHPGRTTGPSDRGFCVVSPA
RPAEBATSLEGALSGTBHSHSSVGROHHAGPBSTSRFDRRWDTPCPPVYAETKREILYS
SGDKEQLRPSFILSSLRPSITGARRLVETIFLGSRPWDTPCPPVYAETKREILYS
FILELIGHAKQCTYGVLLKTHCPLRAAVTPAAGVCAREKGGSVAAPEEBOTDERRLVQ
LLRGHSSFWOVYGFVZACLRRLVPPGLWGSHHERRFDERTWKTETISGGHAKKLSLQEL
TWKMSVRDCAMLRRSPGVGCVPAAEHRLREEILAKFLHWLMSVVVVELLRSFFYVTET
TFCKNRLFFYRPSVWSKLQSIGIRGHLKRVQLRELSBAFVGCHEARRPGLLGSVLG
LDDIHRAWRTFVLRVAADPPPELYFVKVDVTGAYDTIPQDRLTEVIASIIKPONTYC
VRRYAVVCKAAHGHVRKAFKSHVSTTLTDLQFYRRGFVAHLQETSPLRDAVVIEQSSL
NEASSGLFDVPLRFMCHHAVLRIGKSSYLOCCOLFDGAYLLGTSCYCHOMORNER
GGTAFVQMPAHGULTDTGTLEVGSDYSSYARTSIRASVTFNRGFKAGRANGR
GGTAFVGMPAHGLFWCCLLLDTWTLLDGVSSTATGSIRASVTFNRGFKAGRANGR
GGTAFVGMPAHGLFWCCLLLDTWTLLDGVSSTATGSIRASVTFNRGFKAGRANGR
GGTAFVGMPAHGLFWCGVLLDTWTLEVGARPHACVLQTPHQQVMXNPT
FFLRVISDIASLCYSILKAKNAGMSLGAKGAAGPLPSEAVQMLCHQAFLLKLTRHRVT
YVPLLGSLRTAQTICLSRKLPGTTLTALEAAANPALPSDFKTILD"
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/db_xref="GI:38523893"
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/mol_type="mRNA"
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1328 AGCCGGTGTGTCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGA 1387	1268 GTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGACCTGCGGTCACCCCAGC 1327 .	1208 GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAAGCTGCTTGGGAACCACGCGCA 1267 	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT 1207	1088 GCCCTCCTTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	1028 CCCGGTGTACGCCCAAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACCCCACCCA	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	788 TGCCCCTGAGCCGGAGCGGACCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	728 GAGGCGCGGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	608 TCAGGCCCGGCCCCCCCCCACACGCTAGTGGACCCCCAAGGCGTCTGGGATGCGAACGGGC 667	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCTGTACCAGCTCGGCGCTGCCAC 607	488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGACCGGGGCGTGCGGGGCTGCTGCTGCG 487	368 GCTGGTGGACGGGGGCCCCCGGAGGGCCTTCACCACCAGCGTGCGCAGCTA 427	CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCTTCGGCTTCGGCTTCGC 3	241 ACGGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCAGGTGTCCTGCCTG
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2408 GACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGACTCCTCCCTGAATGACGCCAG 2467	348	81	21	67 6	OB CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC	48 41	81	28 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGCGAGGC	6 6	808	48 TGTCACGGAGACCACGTTTCAAAGAACAGGCTCTTTTCTACCGGAGAGTGTCTGGAG	B CAAGITCCTGCACTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT	28	61	CARCUARCIC COTTCCTCAGGARCACCAGAGARTCATCATCTCCCTGGGGARGCATCCCAGGARCACTCATCATCTCCTCGGGARGCATGCCAAGAAGTTCATCTCCCTGGGGARGCATGCCAAGAAGTTCATCTCCCTGGGGARGCATGCCAAGAAGTTCATCTCCCTGGGGARGCATGCCAAGAAGTTCATCTCCTCTGGGGARGCATGCCAAGAAGTTCATCTCCTCTGGGGARGCATGCCAAGAAGTTCATCTCCTCTGGGGARGCATGCCAAGAAGTTCATCTCTCCTTGGGGARGCATGCCAAGAAGTTCATCTCCTCTGGGGARGCATGCCAAGAAGTTCATCTCTCCTTGGGGARGCATGCCAAGAAGTTCATCTCTCCTTGGGGARGCATGCCAAGAAGTTCATCTCTCTCTCTGGGGARGCATGCCAAGAAGTTCATCTCTCTCTCTGGGGARGCATGCCAAGAAGTTCATCTCTCTCTCTGGGGARGCATGCCAAGAAGTTCATCTCTCTCTCTGGGGARGCATGCCAAGAAGTTCATCTCTCTCTCTGGGGARGCATGCCAAGAAGTTCATCTCTCTCTCTGGGGARGCATGCCAAGAAGTTCATCTCTCTCTCTGGGGARGCATGCCAAGAAGTTCATCTCTCTCTCTCTGGGGARGCATGCCAAGAAGTTCATCTCTCTCTCTCTGGGARAGCATGCCAAGAAGTTCATCTCTCTCTCTCTGGGARAGCATGCCAAGAAGTTCATCTCTCTCTCTCTGGGGARGCATGCCAAGAAGTTCATCTCTCTCTCTCTGGGGARAGCATGCCAAGAAGTTCATCTCTCTCTCTCTCTCTCTCTC		388	

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3515 GCCTCTCCTGTTTGCCCTGTGGTGGGATTGGGCTGTCTCCCGTCCATGGCACTTAGGGCC 3574
                                                                                                                                                                                                                                                                      3301 GACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCA 3360
                                                                                                               3421 ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGAGCCAGGCCGA 3480
                                                                                                                                                    3361 GCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCCAACCCGGC 3420
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                                     GAGCAGACACCAGCAGCCCTGTCACGCCCGGGCTCTACGTCCCAGGGÁGGGAGGGGGCGGCC 3540
                                                                        GGGAAGCGCTGGGGCCTGGTCTCTCTGTTTGCCCCCATGGTGGGATTTGGGGGGCCCTG 3514
                                                                                                                                                                                                                                                                                                                                                                                      CCTCAGTGGCAGCAGTGCCTGCCTGCTGGTGTTAGTGTGTCAGGAGACTGAGTGAATCTG 3297
                                                                                                                                                                                                                                                                                                                                                                                                                             CTGCTACTCCATCCTGAAAGCCCAAGAACGCAGGGATGTCGCTGGGGGGCCAAGGGCGCCGC 3240
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                                                                                                                                                                                                                                                                                                             GGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAGTGGTTTAACCCCAACCACTGTCAG 3357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3630 CCCTCTCAGGAGCAGAGGCCGCGTATCACCACGACAGAGCCCCGCGCCGTCCTCTGCTTC 3689
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BD011070.1 GI:18639443
JP 2001081042~A/27.
                                                                                                                                                                                                                                         Human telomerase catalytic subunit.
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PR GR Sechi,T.R., Lingner,J., Nakamura,T., Ch Harley,C.B. and Andrews,W.H. Human telomerase catalytic subunit Patent: JP 2001081042-A 27 27-MAR-2001; GERON CORP, UNIVERSITY TECHNOLOGY CORP Unidentified JP 2001081042-A/27 27-MAR-2001

PF 27-JUL-2000 JF 2000227474

PR 01-OCT-1996 US 08/724643,18-APR-1997 US 25-APR-1997 US 08/846017,06-MAY-1997 US 08/946017,06-MAY-1997 US 08/946017,06-MAY-1997 US 08/954050,14-AUG-1997 US 08/954050,14-AUG-1997 US 08/954051,14-AUG-1997 US 08/95405

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5-APR-1997 US 08/846017,06-MAY-1997 US 08/851843 PR
9-MAY-1997 US 08/851843 PR
08/854050,14-AUG-1997 US 08/911312 PR
4-AUG-1997 US 08/912951,14-AUG-1997 US 08/915303 PI
SECHI,JOACHIM LINGNER, TORU NAKAMURA, KAREN B CHAPMAN, PI

Strandedness: Single;

Topology: Linear;

Location/Qualifiers

G01N33/566, G01N33/573//C12P21/08, A61K37/02, C12N15/00 CC

C12Q1/02, C12Q1/48, C12Q1/68, G01N33/15, G01N33/50, G01N33/53,

C12N15/09

A61K38/00,A61K31/7088,A61K39/00,A61K48/00,A61P35/00,A61P43/00, C07K5/10, C07K5/107,C07K5/117,C07K7/06,C07K7/06,C07K16/40,C12N9/12, PC

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CALVIN B HARLEY, WILLIAM H ANDREWS

Db 841 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGGTGTCACCTGCCAGACCCGGAAGAAGC 900 908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCATCCGTGGGCCGCCA 967	GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCGGCCGAAGAAGC	QY 788 TGCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGAGGAC 847	Qy 728 GAGGCGCGGGGGAGTGCCAAGCCGAAGTCTGCCCTTGCCCAAGAGGCCCAAGGCGTGGCGC 787	OY 668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	QY 608 TCAGGCCCGGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	Qy 548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	QY 488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	Qy 428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGGCGGGGGGGG	QY 368 GCTGCTGGACGGGGCCCGCGGGGGCCCCCCGAGGCCTTCACCACCACCAGCGTGCGCAGCTA 427	Qy 308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGGAAGAACGTGCTGGCCTTCGGCTTCGC 367	QY 248 ACGCCGCCCCCCCCCCCCCCTCCTTCCGCCAGGTGTCCTGCCTG	Qy 188 GGACCCGGCGCTTTCCGCGCGCGCTGGTGGCCCAGTGCCCTGGGTGCCCTGGGACGC 247	Qy 128 GCCGCTGGCCACGTTCGTGCGGCGCTGGGGCCCCAGGGCTGGTGCAGCGCGG 187	Db 68 GCGCCTCCCCGCTGCCGAGCCGTCCCTGCCTGCGCAGCTACCGCGAGGTGCT 127	Db 1 GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCGACCCCGGCGATGCC 67 Db 1 GCAGCGCTGCGTGCGCACGTGGGGAAGCCCTGGCCCCGGCGATGCC 60	Query Match 82.8%; Score 3320.2; DB 6; Length 4037; Best Local Similarity 90.0%; Pred. No. 0; Matches 3638; Conservative 3; Mismatches 356; Indels 46; Gaps 6;		FT CDS 563454. FEATURES Location/Qualifiers source 14037
1988	Qy 1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987	Qy 1868 GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	01	1748 1741	1688 1681	16	1568 1561	1 1 1	1448 1441	1388 1381	1328 1321			1148 1141	1088	QY 1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	QY 968 GEACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	pb 901 CACCTCTTTGGAGGGTGCGCTCTCTGGCACTCCCACCCATCCGTGGGCCGCCA 960

2888 GCAGAGCGACTACTCCAGCTATGCCGGACCTCCATCAGAGCC	2648 GCTCCTGCGTTTGGTGGATTATTCTTGTTGGTGGACACCTCAC	2408 GACCAGCCGCTGAGGGATGCCGTCGTCATCGAGGAGCTCC	161 GCCGCTGAGCTGAGCTGTACATGTGACGGCGCGTACATGCGACAGTTGACCCCC 228 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCC 221 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCC 221 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCC 228 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCC 2281 TCGGTATGCCGTGGTCCAGAAGGCCCGCCATGGGCACAGTCCC 2341 CGGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTCC 348 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTC 341 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTC 341 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTC 341 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTC 341 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTC 341 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTC 341 CGTCTCTACCTTTGACAGACCTCCAGCCGTACATGCGACAGTC	981 CAGAACGTTCCGCAGAGAAAAAGAGGGCCGAGCGTCTCACCTC 1048 CAGCGTGCTCAACTACGAGAGCGGGCGCGGCGCCCCGGCCTCCT 1041 CAGCGTGCTCAACTACGAGCGGGCGCGGCGCCCCGGCCTCCT 1041 CAGCGTGCTCAACTACGAGGCGGGCGCGCGCCCCGGCCTCCT 1041 CAGCGTGCTAACTACCAAGGGCGGCGCACCTTCGTGCTGCG 1108 CCTGGACGATATCCACAGGGCCTTGGCGCACCTTCGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT
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KEYWORDS

AX391846 4070 bp Sequence 1 from Patent W00216555. AX391846 1 GI:19700428

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-	726 AGGAGGCGCGGGGGCAGTGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGC 785	666 GCCTGGAACCATAGCGTCAGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCG 725	606 ACTCAGGCCCGGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGG 665	546 GIGGCICCCAGCIGCGCCIACCAGGIGIGCGGCGCCGCGCTGIACCAGCICGGCGCGCCGCCGCCGCGCGCGCGCGCGCGC	486 CGCCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTG 545	426 TACCTECCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGCGTGGGGGCTGCTGCTG 485	366 GCGCTGCTGGACGGGGCCCCGCGGGGGCCCCCCCGAGGCCTTCACCACCACCAGGCGTGCGCAAGC 425	306 GCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGCGCAAGAACGTGCTGGCCTTCGGCTTC 365	246 GCACGGCCGCCCGCCGCCCCCCCCCCCCCCCCCCCCCC	186 GAGGACCCGGCGCGTTTCCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCCTTGGTGCCTTGGGAC 245	126 CTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGTGCGGCTGGTGCAGCGC 185	66 CCGCGCCCCCCCCGCTGCCGAGCCCTCCCTGCTGCGCAGCCACCTACCGCGAGGTG 125	6 AGGCAGCGCTGCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATG 65	/ Match 82.4%; Score 3307; DB 6; Length 4070; Local Similarity 89.9%; Pred. No. 0; ses 3619; Conservative 0; Mismatches 360; Indels 46; Gaps 5;		Patent: WO 0216555-A I 28-FEB-2002; University of Wales College of Medic Location/Qualifiers Ce I .4070	<pre>1 Jones,C.J., Kipling,D.G., Wilkinson,G., Mcsharry,B.I Skinner,J.W. Cell lines, their preparation and use</pre>	Homo sapiens (human) SM Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Qy 668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	QY 608 TCAGGCCCGGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	QY 548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCCCCTGTACCAGCTCGGCGCTGCCAC 607	QY 488 CCGCGTGGGCACGACGTGCTGGTTCACCTGCTGCGCACGCTCTTTTGTGCTGGT 547	Qy 428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCCGGGGGGGG	QY 368 GCTGCTGGACGGGGCCCGCGGGGGGCCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA 427	QY 308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCAAGAACGTGCTGGCCTTCGGCTTCGC 367	Qy 248 ACGGCCCCCCCCCCCCCCCCCCCCCCCCCCCAGGTGTCCTGCCTG	OY 188 GGACCCGGCGGCTTTCCGCGCGCCTGGTGGCCCAGTGCCTGGTGCCCTGGGACGC 247	QY 128 GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCACGGCTGGGGGCTGGTGCAGCGCGG 187	QY 68 GCGCGCTCCCCGCTGCCGAGCCGTGCCTCCCTGCTGCGCACCACTACCGCGAGGTGCT 127	QY 8 GCAGCGCTGCGTGCGCACGTGGGAAGCCCTGGCCCCGGGCACCCCGCGATGCC 67	Query Match 82.4%; Score 3306.6; DB 6; Length 4015; Best Local Similarity 89.9%; Pred. No. 0; Matches 3518; Conservative 0; Mismatches 359; Indels 46; Gaps 5;	rce 14015 /organism="unknow /mol_type="unassi	AUTHORS Cech,T.R. an TITLE Telomerase JOURNAL Patent: US 6 ATURES LOC	SOURCE Unknown: ORGANISM Unknown: Unclassified. REFERENCE 1 (bases 1 to 4015)	US 6093809.	AR104587
Qy 1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	1681	1628 GANGECGAGGGTTGGCTGTGTTCCGGCCGCAGGCACCGTCTGCGTGAGGAGATCCTTGGC	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCAG	Db 1501 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGAAGCATGCCAA 1560	1448 CGGCTTCGTGCGGGCCTGCCTGCGCCGCTGGTGCCCCAAGGCCTCTGGGGCTCCAAGGCA 15		1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGTCTGTGGCGGCCCCCGAGGAGGAGGA 1321 AGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGTCTGTGGCGGCCCCCGAGGAGGAGGA 1321 AGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGTCTGTGGCGGCCCCCGAGGAGGAGGA 1321 AGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGTCTGTGGCGGCCCCCGAGGAGGAGGA 1321 AGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGTCTGTGGCGGCCCCCGAGGAGGAGGA 1321 AGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGTCTGTGGCGGCCCCCGAGGAGGAGGA	1268 GTGCCCTACGGGGTGCTCCTCAACACGCACCCGCCTGCGAGCTGCGGTCACCCCAGC 13	1208 GCCCAGCGCTACTGCCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 12		1088 GCCTCCTTCCTACTCACCTCTCTGAGGCCCCAGCCTGACTGGCGCTCGGAGGCTCCTGGA	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG	Oy 968 GCACCACGCGGGCCCCCATCCACATCGGGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	Qy 908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCATCCGTGGGCCGCCA 967	Qy 848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	Qy 788 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGCCCACCCGGGCAGGAC 847	Qy 728 GAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787

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3930 ATTGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATTAAGTTTTTTCAGTTTTTGAAAA 3989	, VQ	2888 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCG 2947
AAGGTGTGCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAA	B 8	2828 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCCGGACCCTTGGAGGT 2887
	O D K	2768 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 2827
000	5 B 8	2708 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAA 2767
690 CCASTCACCGTCCTCTGCCCCTGGACACTTTGTCCAGCARCAGGAGGTTTCTGATCGT 720 AGGGCCAGCTTTTCTCACCAGGAGGCCCGCTTCCACTCCCCACATAGGAATAGTCCATC	λ	2648 GCTCCTGCGTTTGGTGATGATTTCTTGTTGATGACCCTCACCTCACCCCACGCGAAAAC 2707
30 CCCTCTCAGGAGCAGAGGCCGCGTATCACCACGACAGAGCCCCGCGCCGCCGCTCTCTGCTTC	QY Db	2588 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT 2647
3575 CTTGTGCAAACCCAGGCCAAGGCTTAGGAGGAGGCCAGGCC	D D D D	2528 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTG 2587
15 GCCTCTCCTGTTTGCCCTGTGGTGGGATTGGGCTGTCTCCCGTCCATGGCACTTAGGGCCT 	- 94 - 64	2468 CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGGG 2527
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41B TOTAL GARAGOTIC CARTOCTECTIC TOTAL TOTAL CONTROL TO THE CONTRO	?	2348 CGTCTCTACCTTGACAGĂCCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 2407
361	λ α α (λ	2288 TCGGTATGCCGTGGTCCAGAAGGCCGCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCA 2347
GGUTTAGGAAGTICTTACCCACTGTCGCATGAAGTGGTTAACCCAACCACTGTCAG) B 69	2228 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGTGCG
COTTAGTIGCAGGAGTGCOTGCTGGTGTTAGTGTGTGAGGAGACTGAGTGAATCTG	5 B &	2168 GCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGCGTACGACACCATCCCCCA 2227
188 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGTATGTGCAGGTGCCTGG) B &	2108 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCTGCTGCGGGCCCAGGACCC 2167
8 TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCT 	Db QY	2048 CAGCGTGCTCAACTACGAGCGGGCGGCGGCCGCCCCGGCCTCCTĞGGCGCCTCTGTGCTGGG 2107
CAAGATCCTCCTGCTGCAGGCCTACAGGTTTCACGCATCTGTGCTGCAGCTCCCATTCA	Db Q	1988 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 2047
8 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 	Db VQ	1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987
CAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG 	Db QY	1868 GGAAGCAGAGGTCAGGCATCGGGAAGCCAGGCCCGCCCTGCTGACGTCCAGACTCCG 1927
	dd	1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867

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608 TCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCGCCGCTGTACCAGCTCGGCGCTGCCAC 607 [488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCTGCGCGCTCTTTGTGCTGGT 547	428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGGGG	368 GCTGCTGGACGGGGCCCCGGGGGCCCCCCGAGGCCTTCACCAGCGTGCGCAGCTA 427	308 CCGAGTGCTGCAGAGCCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 367	248 ACGGCCCCCCCCCCCCCCCCCCCTCCCTCCGCCAGGTGTCCTGCCTG	188 GAACCCGGCCGCCTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGC	128 GCCGCTGGCCACGTTCGTGCGGCCCTGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 187	68 GCGCGCTCCCCGCTGCCGAGCCGTGCCGCTGCTGCGCAGCCACTACCGCGAGGTGCT 127	CTGGCCCCGGCCACCCCCGCC	y Match Local Similarity 89.9%; Pred. No. 0; hes 3618; Conservative 0; Mismatches 359; Indels 46; Gaps 5;	source 14015 -/organism="unknown" /mol_type="unassigned DNA" N	Telomerase L Patent: US 6	Unknown. Unclassified. 1 (bases 1 to 4015)	AR175848.1 GI:17917147	AR175848 4015	4013 AAA 4015	3990 AAA 3992 	3953 ATTGGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAA 4012
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1688 CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT	1628 GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC	μœ	501	P 80	μ α	328	1268 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC	1208 GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 	⊢ დ	1088 GCCTCCTTCCTACTCAGCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCCC	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACCCCACCCGTCGGCCGCCA	4 .	788 TGCCCCTGAGCCGAGGGAACGCCCGTTGGGCAGGGTCCTGGGCCACCGGGCAGGAGGACTGGGCTTGGGCTTGGGCCACCGGGCAGGAGGACTGTTGGGTTGGGTCCACCGGGCAGGAGGACGACTGGGTTGGGCCAGGAGGAGGACCAGGAGAGAGA	28 21	661 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGT	601 TCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC

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780 CCCAGATTCGCCATTGTTCACCCCTCGCCCTGCCCT	2708 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAA 2767	유 성
720 AGGGCCAGTTTTCCTCACCAGGAGCCCGGGTCCTACACTCCCACATAGGAATAGTCCATC 750 CTGAAATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTTAACAGCTTCTACTTTCTGTTC	2648 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCCACGCGAAAAC 2707	당 당 당
661 GAGTCTAGCACCACCTCTGCCTCTGACACCTTCCCCACAGGCAGG	2588 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGGACGGGCT 2647	A A
3610 CCCCTCTCAGGAGGAGGCCTAAGGCTAACGACGAGGAGGAGGAGGAGTGTCCAGCCTACCCACC 3680	2528 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCACGCTGCTCTG 2587	A dd
515 GCTTCCTGTTTGCCCTGTGGTGGATTTGGGCTGTCCCCGTCCATGGACTTAGGGCTGATTGGCCGAGGCCTGAGTGAG	2468 CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGGG 2527	. B. S
	2408 GACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAG 2467	B &
418 TOTGGGAGCTIGCARICTTCCACCTTGCTCT	2348 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 2407	를 상
3356 GCTGAGCGGCCCCCCCCCCGGGGGGAGGAGGAGGACCCCCGATGGAAGGAGGAGGAGCTG 3417	2288 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCCACGTCCGCAAGGCCTTCAAGAGCCA 2347	Ag Ag
3370 GGC TANGGENGTE LETTACCCCTTT LIGGAL LANGUARIST GGT TANCCARCACTUCAGA 3357	2228 GGACAGGCTCACGGAGGTCATCGCCAGCATCAAACCCCCAGAACACGTACTGCGTGCG	P 5
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008 TCACAGCCTGTTTCTGGATTTGCAGGTGACAGCCTCCAGAGGGTGTGCACCAACATCTA 001 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 001 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA	1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987	dg VQ
CGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG	1868 GGAAGCAGAGGTCAGGCAGCGATCGGGAAGCCAGGCCCTGCTGACGTCCAGACTCCG 1927	d Ag
2888 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCG 2947	1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867 	Ag Ag
2828 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGATACCCCGGACCCTGGAGGT 2887	Qy 1748 TGTCACGGAGACCACGTTTCAAAAGAACAGCCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	라 장

128 GCCGCTGGCCACGTTCGTGCGGCCCTGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG	QY 68 GCGCGCTCCCGCTGCCGAGCCGTCCCTGCTGCGCAAGCAA	 	Query Match 82.4%; Score 3306.6; DB 6; Length 4015; Best Local Similarity 89.9%; Pred. No. 0; Matches 3618; Conservative 0; Mismatches 359; Indels 46; Gaps 5;	/organism="unidentified" /mol_type="genomic_DNA" /db_xref="taxon:32644"	O P.	PC (C12N1/21,C12R1:19),(C12N9/12,C12R1:19),(C12N9/12,C12R1:84), PC (C12N9/12,C12R1:91),C12N15/00,A61K37/64,C12N5/00 CC Strandedness: Single; CC Topology: Linear;	PC C12Q1/48,C12Q1/68,G01N33/15,G01N33/48,G01N33/50//C07K14/47, PC C07K16/40, PC C12N1/19,C12N1/21,C12N5/10,C12N9/12,C12P21/08,(C12N1/19, PC C12R1.84)	,A61K39/3	.017,06-MAY-1997 US 08/851.843, PR .050,14-AUG-1997 US 08/911.312, PR .951,14-AUG-1997 US 08/915.503 PI T .TORU NAKAMURA, KAREN B CHAPMAN, PI GR	PN JP 199253177-A/1 PD 21-SEP-1999 PF 15-OCT-1998 JP 1998320169 PR 01-CCT-1996 US 08/724.643.18-APR-1997 US 08/844.419 PR 01-CCT-1996 US 08/724.643.18-APR-1997 US 08/844.419	TITLE Human telomerase catalytic subunit promoter JOURNAL Patent: UP 199253177-A 1 21-8EP-1999; JERON CORP, UNIVERSITY TECHNOLOGY CORP COMMENT OS Unidentified	unclas 1 (ba Thomas Calvir		E36793 LOCUS E36793 A015 bp DNA linear PAT 18-JUN-2001 DEFINITION Human telomerase catalytic subunit promoter. ACCESSION E36793	Db 4013 AAA 4015 RESULT 12	0665	QY 3930 ATTGGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAA 3989	3893 A
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•	Query Match 82.4%; Score 3306.6; DB 6; Length 4015; Best Local Similarity 89.9%; Pred. No. 0; Matches 3618; Conservative 0; Mismatches 359; Indels 46; Gaps 5;	source 1. 4015 /organism="unknown" /mol_type="genomic DNA" ORIGIN	Dendritic ce for the trea Patent: US 6 Loc	ORGANISM Unknown. Unclassified. REFERENCE 1 (bases 1 to 4015) AUTHORS Gaeta, F.C.A.	AR224455 AR224455.1 GI:23333293 Unknown.	z	Db 4013 AAA 4015	Db 3953 ATTGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTCAGTTTTGAAAA 4012 Qy 3990 AAA 3992	DD 3893 AAGGIGIGCCCIGTACACAGGCGAGGACCCTGCACCTGGATGGGGTCCCTGTGGGTCAA 3952 QY 3930 ATTGGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAA 3989	3870 AAGGTGTGCCCTGTACACAGGCGAGGACCCTGGACCTGGATGGGGGGTCCCTGTGGGTCAA 39	Qy 3810 TTTCTGTGTGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCA 3869	Db 3780 CCAGATTCGCCATTGTTCACCCCTCGCCCTGCCCT	3720 AGGGCAGCATTTCCTCACAAGGAGCCCGGCTTCCACTCCACACATAGGAATAGTCCATC	3661 GAGTGTCCAGCACCTGCCGTCT-TCACTTCCCCACAGGCTGGCGCTCGACCACCCC	3601 CATGTCCGGCTGAAGGCCGAGTATCACCAACAACAGGCCTGAGCGAGGCCTAAGGGCCT	Db 3541 CACACCCAGGCCGCACGCTGGGAGTCTGAGGCCTGAGTGAG	Db 3481 GAGCAGACCAGCAGCCCTGTCACGGGCTCTACGTCCCAGGAGGGAG	DD 3421 ACTGCCCTCAGACTTCAAGACCATCCTGGACTGGATGGCCACCGCCCACGCCCAGGCCAGGCCGA 3480 QY 3455 GGGAAGCGCTGGGGGGGCTTCGTCTCCTGTTTGCCCCATGGTGGGATTTGGGGGGCCTG 3514	3418 TCTGGGAGCTGCCATCCTTCCCACCTTGCTCT	Db 3361 GCTGAGTCGGAAGCTCCCGGGGAACGCTGAATGCCCTGGAGGCCGAACCCGGGC 3420
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CechT.R., Lingmer,J., Nakamura,T., Chapman,K,B., Morin,G.B., Harley,C.B. and Andrews,W.H.
Antisense compositions for detecting and inhibiting telomerase reverse transcriptase
Patent: US 6444650-A 1 03-SEP-2002;
Location,Qualifiers
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Best Local Similarity
Matches 3618; Conserv
968 GCACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC
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                                                                                                                          GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC
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2828 GCCGGCCC#CGGCCTATTCCCCTGGTGCGGCCTGCTTGCTGCATACCCGGACCCTGCAGT	음 성 음 성 음 성 음 성 음· 성	748 TGTCACGGAAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 180
2588 2581 2648 2641 2708 2701 2768 2761	\ \text{P} \text{ \text{P} \text{P} \text{P} \text{ \text{P} \text{P} \text{ \text{P} \text{P} \text{ \text{P}	508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 156
2341 2408 2401 2401 2468 2461 2528 2528	8 8 8 8 8 8 8	1268 GIGCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 1327
2108 2101 2168 2168 2161 2228 2228 2288	S	961 GCACCACGCGGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACAAGGACCACGCCTTGTCC 1020 1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087

QV da	3188 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGTATGTGCAGGTGCCTGG 3	3237 3240
유 &	3238 CCTCAGTGGCAGCAGTGCCTGCCTGCTGGTGTTAGTGTGTCAGGAGACTGAGTGAATCTG 3	3297
Db Qy	3298 GGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAGTGGTTTAACCCAACCACTGTCAG 33	3357 3360
B &	3358 GCTCGTCTGCCCGCCCTCTCGTGGGGTGAGCAGAGCACCTGATGGAAGGAA	3417
Qy	418 TCTGGGAGCTGCCATCCTTCCCACCTTGCTCT	3454
망	421 ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCCGCCCACAGCCAGGCCGA	3480
δ	3455 GGGAAGCGCTGGGGGGCCTGGTCTCCTGTTTGCCCCATGGTGGGATTTGGGGGGCCTG 3	3514
дb		3540
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дb	3541 CACACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGAG	600
ş 8	3575 CTTGTGCAAACCCAGGCCAAGGGCTTAGGAGGCAAGGCCAAGGCCAGGCTACCCCAC 3	3629
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3 S	3630 CCCTCCAGGAGCAGAGGCGCGTATCACCACGACAGAGCGCGCGC	3689
δ		3749
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ΩY	3750 CTGAAATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTAACAGCTTCTACTTTCTGTTC 3	3809
Ъ	t.s	832
Qy	3810 TTTCTGTGTGTGAGAACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCA 38	969
ф	3833 CACCATCCAGGTGGAGACCCTGAGAAGGACCCTGGGGAGCTCTGGGAATTTGGAGTGACCA 38	192
, 8	870 AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAA	929
₽		3952
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ф		4012
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Search completed: March 1, 2004, 14:23:19
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	Aax18350 Tel	Aav22382 Hun	Abz69628 Pla	Aax18277 Alt	Aax18275 Tel	Aax18280 Alt	Aax18271 Alt	Aad46793 pw		Aad46790 pGI	Abz76217 Hur	Aax18268 Alt	Abl91685 Hur	w	Abz35720 Hur	4			Aah48235 Hea	Aax18278 Te.	Aax18269 Tel
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ALIGNMENTS

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RESULT 1
AAV72117
20-JUN-1997;
26-MAR-1998;
14-APR-1998;
                                              New catalytically active subunit of human telomerase - used in the modulation of telomerase activity, particularly for treating cancer and
                                                                                 P-PSDB; AAW90251.
                                                                                                                Hagen G,
                                                                                                                                                                                                                                                                                                                                     Human; catalytic telomerase subunit; therapy; diagnosis; hTC; assay; modulator; treatment; inhibit; cellular disorder; death; defect; cancer; ageing; antisense; neoplastic cell; telomerase-related condition; tumour cell; ss.
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                                                                                                                                                                                                                                                                                                                                                                                                                                   AAV72117;
                                       ageing.
                                                                                           WPI; 1999-081276/07.
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                                                                                                                                   (FARB ) BAYER AG.
                                                                                                              Siegmund H,
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98DE-01013274.
98DE-01016496.
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                                                                                                                                                                                                                                                                                   Location/Qualifiers 63. .3461
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                                                                                                               Weichel W,
                                                                                                                Wick M,
                                                                                                                Zubov D;
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This sequence encodes a novel human catalytic telomerase sub-unit (hTC).

Claim 4; Fig 1; 76pp; German.

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The encoded protein can be used in screening assays to identify modularcors of telomerase and to treat or inhibit cellular disorders, death, defects and/or other pathological processes involving telomerase, particularly cancer and agging (also suitable for this are agents that stimulate, inhibit or mimic the activity of the subunit). Antisense nucleic acids inhibit telomerase action (by binding to specific mRNA), particularly in neoplastic cells and may be expressed in vivo. Antibodies and fragments of the protein, used as probes or primers, are used to diagnose telomerase-related conditions (especially neoplasia) by (i) detecting abnormal levels of the subunit protein in body fluids or tissues or (ii) by measuring the amount of the encoding nucleic acid. Expression of the nucleic acid encoding the subunit mRNA is confined to tumour cells, in contrast to the ubiquitous expression of the telomerase RNA subunit
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Sequence 4042 BP; 684 A; 1364 C; 1277 G; 717 T; 0 U; 0 Other;

Query N Best Lo Matches	y Match Local Similarity 90.0%; Pred. No. 0; hes 3645; Conservative 0; Mismatches 359; Indels 46; Gaps 5;
Ş	- C
DЬ	1 GTTTCAGGCAGCGCTGCGTCCTGCGCACGTGGGAAAGCCCTGGCCCGGCCACCCCCG 60
γŞ	GATGCCGCGCGCTCCCCGCCGCCGAGCCGTGCGCTCCCTGCTGCG
Db	61 CGATGCCGCGCGCTCCCGGCTGCCGAGCCGTGCCTCCCTGCTGCGCACTACCGCG 120
γŞ	121 AGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGGCGCTGGTGC 180
Вb	121 AGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTGC 180
Q	181 AGCGCGGGGACCCGGGCGCTTTCCGCGCGCGCTGGTGGCCAGTGCCTGGTGTGCGTGC
Вb	181 AGCGCGGGGGCGGCTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGCGTGC
Qy	241 GGGACGCACGGCCCCCCCCCCCCCCCCCCCCCCCCCCC
망	241 GGGACGCACGCCCCCCCCCCCCCCCCCCCCCCCCCCCC
γQ	301 TGGTGGCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCG
DЬ	301 TGGTGGCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTCG 360
γQ	361 GCTTCGCGCTGGACGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCACCAGCGTGC 420
Db	361 GCTTCGCGCTGGACGGGGCCCGCGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGC 420
Ş	421 GCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGCGGGGGGGG
Дb	421 GCAGCTACCTGCCCAACACGGTGACCGAACGCACTGCGGGGGAGCGGGGGGGG
Q	- G
В	481 TGCTGCGCCGCGGGCGACGACGTGCTGGTTCACCTGCCTG
γ	541: TGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCG 600
Db	541 TGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCCCCCTGTACCAGCTCGGCG 600
8	601 CTGCCACTCAGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCG 660
Db	601 CTGCCACTCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCG 660
80	661 AACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCCG 720
Дb	661 AACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCCAGCCCCCGG 720
γŞ	721 GTGCGAGGAGGGGGGGGGGAGTGCCAAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAAGGC 780
Dβ	721 GTGCGAGGGGGGGGGGGAGTGCCAGCCGAAGTCTGCCCAAGAGAGGCCCAAGAC 780

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Ş	Db ·	Ş	Дb	Ş	B 18	? ;	B 성	B 1	8	B 8	B &	2 5	\$ 8	Дb	Ş	Db ·	Ś	Db Qy	B	8	DЬ	8	р В	\$	유 왕	Ъ	γQ	Db ·	Ş	라	Ş
1861		1801	1741	1741	1681	n :	1621 1621	561	561	1501	44 4	4 4	381	1321	. 1321	26		1201 1201	<u> </u>	1141	1081	1081	1021		961			841	841	781	781
AGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	TCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGG 1860	стодая сласттославае саттора в телей с в стора в представления в представления в представляющих в представляю	TCTTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTG 1800	стттатетсасевавассасеттсааладааслеетсттттстассевалелет	TCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGGTCAGGTCTT 1740	ファイ・コード・ファイン でんしょう マルン・ファイン・ファイン・ファイン・ファイン・ファイン・ファイン・ファイン・ファイ	TGCGCAGGAGCCCAGGGGTTGGCTGTGTTGTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGA 1680 TGCGCAGGAGCACCACCGTTGGCTTGTTTCCGGCCGCAGAACCACCGTCTGCGTGAGGAGA 1680	62	В Расстопосопасладавается подавання в посторожения посторожения посторожения посторожения посторожения посторо	CCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGC 1560	AGGTGTACGGCTTCGTGCGGGCCTGCGCCGGCTGGTGCCCCCAGGCCTCTGGGGCT 1500	ACABEACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCAACAAGCAGCCCCCTGGC 144	144	CCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAGCCCCCAGGGCTCTGTGGCGGCCCCGAGG 1380	CCCAGCAGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGCTCTGTGGCGGCCCCC	CGCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTCA 132	CGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCG	CCCGCCTGCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACC 1260	ACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTG		AGCTGCGGCCCTCCTTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGC 1140	crecescorrocracroaecrorreaescoaeccaeccreacreecer	80	rcccccarraracaccaaaaccaaacrracrrcrracrac	GCGCCAGCACGACGCGGGCCCCCATCCACATCGCGGCACCACGTCCCTGGGACACGC 1020	AGAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	AGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACCGCCACCCCACCCCACCCCACCCGTGG 96	GTGGACCGAGTGACCGTGTTTCTGTGTGTGTCACCTGCCAGACCCGCC	CGCGTGGACCGAGTGACCGTGGTTTTCTGTGTGTGTCACCTGCCAGACCCGC	GTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGG 840	ТӨӨСӨСТӨСССТОАӨССӨӨАӨСӨӨАСӨСССТТӨӨӨСАӨӨӨТССТӨӨССӨСТӨӨССӨСӨСӨСӨ

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2941 TCAACCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGC 3000	2881 TGGAGGTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCT 2940	2821 TTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCC 2880	2761 TGCGGAAGACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTG 2820	2701 CGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACT 2760	2641 ACGGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGGTGGACACCTCACCTACCCACG 2700	2581 TGCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGG 2640	2521 TCAGGGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGCTCCATCCTCTCCACGC 2580	2461 AGGCCAGCAGTGGCCTCTTCGACGTTTCCTACGCTTCATGTGCCACCACGCCGTGCGCA 2520	2401 TGCAGGAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATG 2460	2341 AGAGCCACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACC 2400	2281 GCGTGCGTCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCA 2340	2221 TCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGGATCATCAAACCCCCAGAACACGTACT 2280	2161 AGGACCCGCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGCGCGCTACGACACCA 2220	2101 TGCTGGGCCTGGACGATATCCACAGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCC 2160	2041 CACTGTTCAGCGTGCTCAACTACGAGCGGGCGCGCGCGCCCCGGCCTCCTGGGCGCCTCTG 2100	1981 TGGGAGCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGG 2040	1861 AGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCTGCTGACGTCCA 1920 1961 AGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCTGCTGACGTCCA 1920 1921 GACTCCGCTTCATCCCCAAGCCTGACGGGCTGGCGGCCGATTGTGAACATGACTACGTCG 1980 1921 GACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCG 1980	
Å &	D QY	Db Cy) B &	Db Oy	₽ Q	d dd y	40	}	5 B 8		₽ \$	B &	} B &	₽ \$. p. 2	da Vo	40 40 40	
3983 TTGAAAAAAAAAAAAAAAAAAAAAAAAA 4012 			TOTSTICTTCTGTGTGAGAACCCTGAGAACCCTGGGACTCTGGGAATTTGGA	GATCCGTCTGAAATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTAACAGCTTCTACTT	CACCCCAGGCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACCACATAGGAATA	661	01	541 GGGGCCCACACCCAGGCCGCACCGCTGGGAGTCTGAGGCCTGAGTGTTTGGCCG	190	11 GAAGCTGTCTGAGAGCTGCCACCTTGCTCT	351 CINTEMPOLICATE CONCENTRATE AND	01	241	181 CCTCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGATGTCCAGG	121 CATTTCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGG		2941 TCAACCGCGGCTTCAAGGCTGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGC 3000 3001 TGAAGTGTCACAGGCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCA 3060	

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CC (hTRT), which is a ribonucleoprotein. The present invention also Cd describes the following methods: (A) determining whether a test compound is a modulator of hTRT, by detecting the change in hTRT recombinant CC protein or polymucleotide, on administration of the compound; (B) CC preparation of recombinant telomerase by contacting a protein preparation of hTRT with a telomerase RNA component; (C) detection of the hTRT RNA or protein in a sample by binding a relevant probe to the sample and CC protein in a sample by binding a relevant probe to the sample and CC the product and correlating the presence of complex or amplifying the complex formed or in the case of RNA detection, amplifying the product with presence of hTRT in the sample; and (D) increasing the product with presence of hTRT in the sample; and (D) increasing the complification of a vertebrate cell by increasing hTRT expression; and (E) the use of an agent that causes an increase in cell vertebrate cell croliferation to create a medicament that inhibits ageing. A protein preparation of hTRT and the polymucleotide encoding hTRT can be used in the manufacture of medicaments for inhibiting the effect of ageing or that are associated with high telomerase activity. A protein preparation of hTRT can also be used in the new methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cech TR, L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pure and recombinant human Telomerase Reverse Transcriptase and its variants - are useful in the diagnosis, prognosis and treatment of cell proliferation conditions especially cancer and ageing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 1; Fig 74; 387pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-OCT-1996;
18-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence encodes human telomerase reverse transcriptase (hTRT), which is a ribonucleoprotein. The present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1998-171633/16.
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/note= "refined sequence"
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Best Local Similarity 90.0
Matches 3637; Conservative
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                                              GCACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC
                                                                                                        CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCATCCGTGGGCCGCCA
                                                                                                                                                                                                                 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGC
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                                                                                                                                                                                                                                                                                                                                                                               TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC
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1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987	1808 CAAGTTGCAAAGCATTGGAATCAGACACCTTGAAGAGGTGCAGCTGCGGGAGCTGTC 1867	1688 CAAGTICCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGAACTGCGCTTGGCTTGGCTGCGCAG 1627	1448 CGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA 1507	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGAGGAGGA	1208 GTGCCCTACGGGTGCTCCTCAAGACGCACTGCTGCGAGCTGCTTGGGAACCACGCGA 1267 1201 GCCCCAGCGCTACTGGCAAATGCGGCCCTGTTTCTGGAACCTGCTTGGGAACCACGCGCA 1260 1268 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTCACCCCAGC 1327 1261 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGGTCGGGGTCACCCCAGC 1320	028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 108
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308 TCACAGCCTGTTTCTGAATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 3067	B81 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGGCCAGCTGTCAACCG 2 948 CGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG 3 948 CGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTTGGGGTCTTGCGGCTGAAGTG 3 941 CGGCTTCAAGGCTGGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG 3		641 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGAAAAC 708 CTTCCTCAGGACCCTGGTCCGAAGGTGTCCTGAGGTATGGCTGCGTGAGACCTTGCGGAA	5 8 8 B B B B B B B B B B B B B B B B B	AUGUST CANCAGCCCGCIGNAGGATIGACGCCATCGACGAGGAGGAGGCTCCTCCCTGAATGAGGCCAG	281 TCGTTATGCCGTGGTCCAGAAGGCCGCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCA 348 CGTCTCAACTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 341 CGTCTTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 341 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA	2108 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGGTGTGCGGGGCCCAGGACCC 2167

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       Catalytic subunit; human; telomerase; telomere maintenance; diagnosis; treatment; cancer; ss.
                                          Human telomerase gene referred to as hEST2.
                                                                                           AAV60320;
                                                                                                                AAV60320 standard; cDNA;
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                                                                                                                                                                                                                                                                                                                                  3810 TTTCTGTGTTGTGGAGACCCCTGAGAAGGACCCTGGGGAGCTCTGGGAATTTGGAGTGACCA 3869
                                                                                                                                                                                               3990 ААЛАЛАЛАЛАЛАЛАЛАЛАЛАЛ 4012
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                                                                                                                                                                         AAAAAAAAAAAAAAAAAAAAA 4035
                                                                                                                                                                                                                                                                                            AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGTCCCTGTGGGTCAA 3929
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                                                                                                                                                                                                                                            ATTGGGGGGAGGTGCTGGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAA 3989
                                                                                                                                                                                                                                                                   AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAA
                                                                                                                                                                                                                                                                                                                   CACCATCCAGGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCA
                                                                                                                                                                                                                                                                                                                                                                CCCAGATTC--GCCATTGTTCACCCYTCGCCCTGCCYT----CCTTTGCCTTCCACCCC
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01-AUG-1997;
14-AUG-1997;
30-OCT-1997;
                                         products for increasing or cells or transformed cells.
Claim 5; Fig 5A-B; 96pp; English.
                                                         New isolated human telomerase catalytic sub-unit gene - used to develop products for increasing or reducing the life span of cells such as cancer
                                                                                                                                                                              Counter
                                                                                                                                                                                                                                                                                                                                   20-FEB-1997;
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                                                                                                                                                                                                                   (WHED ) WHITEHEAD INST BIOMEDICAL
                                                                                                                                                                                                                                                                                                                  20-MAY-1997;
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The present sequence encodes the catalytic subunit of a human telomerase holoenzyme. Disruption of the telomerase gene alters telomere maintenance. The DNA is essential for telomerase activity, and the protein is physically associated with telomerase and a constituent of active telomerase complex. The products can be used for increasing or reducing the lifespan of cells such as cancer cells or transformed cells. They can also be used in the diagnosis and treatment of malignancies. In addition, cells with a longer lifespan can be transplanted into or grafted onto an individual (e.g. as skin grafts, as systems for delivery of therapeutic proteins, such as hormones and enzymes), to whom they provide therapeutic benefit

Sequence 4023 BP; 668 A; 1363 C; 1277 G; 715 T; 0 U; 0 Other;

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Matches 3624; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
301
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                                                                                                                                                                                                GCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCG
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                                                                                                                                                                                                                                                                                                                                  CAGGCAGCGCTGCGTCCTGCGCACGTGGGAAAGCCCTGGCCCCGGCCACCCCCGCGAT
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                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches 361; Indels
                                                                                                                                                                                                                                                                                                                                                                                                              Score 3311.4; DB 2; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                Length 4023;
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445 GTACGGCTTCGTGCGGGCCTGCCTGCGCGGCTGGTGCCCCCAGGCCTCTGGGGGCTCCAG 150	1385 GGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGT 1444	1325 AGCAGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGA 1384	1265 GCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCC 1324	1205 CCTGCCCCAGGGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGC 1264	1145 GGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCG 1204	1085 GCGGCCCTCCTTACTCAGCTCTCTGAGGCCCAGCCTGACCTGGCGCTCGGAGGCTCGT 1144	1025 TCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCT 1084	965 CCAGCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTG 1024	905 AGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	845 GACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGA 904	785 CGCTGCCCCTGAGCCGGAGCGGACGCCGTTGGGCAGGGGTCCTGGGCCACCCGGGCAG 844	725 GAGGAGGCGCGGGGGGCAATGCCAACCGAAGTCTGCCGTTGCCCAAAAAGGCCCAAGGCGTGG 784	665 GGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCGGGTGC 724	605 CACTCAGGCCCGGCCCCGCCACACGCTAGTGGAACCCCGAAGGCGTCTGGGAATGCGAACG 664	545 GGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGC 604	485 GCGCCGCGGGGCACGACGGCGGGTGCTGGCTGGCACGCTGCGCGCTCTTTGTGCT 544	425 CTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGGGAGAGCGGGGCGTGGGGGGCTGCTGCT 484	365 CGCGCTGCTGGACGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAG 424
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2525 GGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTACCACGCTGCT 258	2465 CAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAG 2524	4 4	45 CACGICICIACCITEACAGACCICCAGCGIACATGGACAGTTGGTGGCTCACCTGCA	B5 GCGTCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAG	25 CCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGT 	65 CCCGCCTGAGCTGTACTTTGTCAAGGTGATGTGACGGGGGGGTACGACATCAC 	05 GGGCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGA 01 GGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGA 01 GGGCCTGGACGATATCCACAGGGCCTGGCGGCACCTTCGTGCTGCTGCGGGCCCAGGA	**3 BILCARGE GELCAACTACGAGCGGGCGGGCCCCGGCCTCTGGGCGCTCTGTGCT 41 GTTCAGCGTGCTCAACTACGAGCGGGCGCGGCCGCCCTCGGCGCCTCTGTGCT	985 AGUCAGAKUSTICUGKAGAGAAAAAGAGGGCGAGGGTUTCACUTUGAGGGTGAAGGCACT 	925 CGCTTCATCCCCAAGCCTGACGGCTGCGCCCATTGTGACATGGACTACGTCGTGGGCTGGGCTCGTGTGTGT	865 GTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGCCCGCCTGCTGACGTCCAAGT 	BUS GAGCAAGITIGGAAAGGATTIGGAATCAGACAGCATTIGAAGAGGTTGCAGCTGCGGGAAGCT	745 THATETUACEGAGACCACGITTCAAAAGAACAGGCTCTTTTTTTACCGGAAGAGTGTCTG	885 GSCLAAGITCCIGCACIGGCIGAIGAGIGIGGAGGIGGIGAAGGICTTTCTT 681 GGCCAAGTTCCTGCACIGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGTCTTTCTT	621 CAGGANGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGAATCCT	THE STATE OF THE PROPERTY OF T	SUB GEACHACGECUGETTECTEAGGAACACGAAGATTECATETECETGGGGAAGCATGC [

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3601 CTGCATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGG 3660
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The present sequence is that of hTERT cDNA in plasmid pGRN121. hTERT is the catalytic subunit of human telomerase. Claimed immortalised cell lines for use in vaccine production are adapted to express hTERT. Suitable cell lines comprise human diploid fibroblasts, e.g. MRC-5 or W138 cells, transfected with hTERT cDNA or infected by a retrovirus carrying hTERT cDNA, and are capable of supporting antigen production. method for preparing such cell lines using recombinant techniques is

production.

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RESULT 4
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ID ABL53711
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4070 BP; 670 A; 1383 C; 1296 G; 721 T; 0 U; 0 Other;
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	6 TACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTT 3125	3066	Ş
	9 TGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCCAACATC 3078	21	ф
٠	GTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACAT	3006	S
	GCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAAC	2959	Дb
	TCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGC	2946	λδ
	9 GTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCAACCTTCAAC 2958	2899	DB B
	GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAA	2886	Ş
	9 ATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGCATACCCCGGACCCTGGAG 2898	2839	뫄
	TGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGG	82	Ş
	9 AAGACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAG 2838	77	Db Db
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	9 ACCITCCICAGGACCCIGGICCGAGGIGICCCIGAGTAIGGCTGCGIGGIGAACITGCGG 2778	2719	Дb
	CCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGACTTC	70	8
	9 CTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCCACC	Ω O	ΔÇ
	TICCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACC	264	δ.
	9 TGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGAATTCGGCGGGACGGG 2658	2599	멍
	эсстопость соосодсь тоора в дестоптующей при председения при	258	Ş
	9 GGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCCACGCTGCTC 2598	2539	밁
	TCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCT	52	Q
	9 AGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCCCCGTGCGCATCAGG 2538	47	망
	GCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCA	246	Q.
	9 GAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGCTCCTCCCTGAATGAGGCC 2478	41	밁
	CAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCTGAATGAGGC	240	Ş
	9 CACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAG 2418	235	망
	асетстстасствасавасстскаессять сатесвасаеттсе теретово	234	δ
	9 CGTCGGTATGCCGTGGTCCAGAAGGCCGCCCCATGGGCACGTCCGCAAGGCCTTCAAGAGC 2358	229	g d
	GTCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAG	228	δ.
	9 CAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAACCCCAGAACACGTACTGCGTG 2298	223	망
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	9 CCGCCCGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGCGTACGACACCATCCCC 2238	217	뮍
	CGCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGCGTACGACACATCCC	216	Ş
	9 GCCTGGACGATATCCACAGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGAC 2178	211	₽ B
	GCCTGGACGATATCCACAGGGCCTGGCGCACCTTTCGTGCTGCTGTGCGGGGCCCAGGA	210	8
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	TCAGCGTGCTCAACTACGAGCGGGCGCGCGCCCCGGCCTCCTGGGCGCCTCTC	204	Ş
	9 GCCAGAACGTTCCGCAGAGAAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTG 2058	1999	DB G
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
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  This is the nucleotide sequence of cDNA encoding human telomerase reverse transcriptase (hTRT, see AAY22090). Human telomerase is a target for diagnosing and treating diseases relating to cell proliferation and senescence, such as cancer, or for increasing the proliferative capacity of a cell. A claimed method for increasing the proliferative capacity of
                                                                                                                                                                                                     New catalytic polypeptide and polynucleotide, useful for increasing catalytic activity in a cell.
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                                                                                                                                                         Disclosure; Fig 2; 24pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
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3008 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA	- Qy	1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGG 1987
41	d d	1868 GGAAGGAGATCAGGCAGCATCGGGAAGCCAGGCCCGCCCTGCTGACGTCCAGACTCCG 1927
81	υ ξ	1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867
2 2 2	Ş dd Ş	1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807
62 68	qq	1688 CAAGITTCCTGCACIGGCTGATGAGIGIGITACGTCGTCGAGCTGCTCAGGTCTTTCTTTTA 1747
2 2	₽ £	1628 GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687
4 4 6	d dd	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCAG 1627
88	QY dd	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCCTGGGGAAGCATGCCAA 1567
21	da Ç	1448 CGGCTTCGTGCGGGCCTGCCCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA 1507
61 68	λ 4α δ	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1447
01	Qy dd	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGA 1387
4 4	dd Qy	1268 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 1327
81	dg Qy	1208 GCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267
21	Qy dd	1148 GACCATCITTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCGCCC
61 68	dd Qy	1088 GCCTCCTTCCTAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147
01	g gy	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087
048	Ag da	968 GACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027
988	d da	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCACTCCCACCCA
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                                                                                                    ATTGGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTTGAAAA 3989
                                                                                                                                                           AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAA
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                                                                                                                                                                                                                                                                                      TTTCTGTGTGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCA 3869
                                                                                                                                                                                                                                                                                                                                                                      CTGAAATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTAACAGCTTCTACTTTCTGTTC 3809
                                                                                                                                                                                                                                                                                                                                                                                                              AGGGCCAGCTTTTCCTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATC 3779
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                                                                           ATTGGGGGGAGGTGCTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAA
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                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                            The present sequence encodes a human telomerase reverse transcriptase (TRT) polypeptide. The protein is used in the method of the invention. The specification describes a method for activating a Tlymphocyte, comprising contacting the Tlymphocyte with a dendritic cell that expresses a TRT peptide in the context of a MHC class I or MHC class II molecule. The protein causes induction of an in vivo immunological response to telomerase activity. Cancer cells are characterized by expression of endogenous TRT gene and the presence of detectable telomerase activity. Therefore, by eliciting a specific immune response to TRT or to TRT-expressing cells, it is possible to selectively target proliferating cells for immunological destruction. The method is used fo eliciting an in vivo immune response to telomerase by activating a Tlymphocyte, and is useful for prevention and treatment of cancers and other proliferation diseases/conditions
                                                                                                                                                                             Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Fig 2; 26pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eliciting an in vivo immune response for prevention and treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31-MAR-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P-PSDB; AAY43621
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                                                                                                                             Local Similarity
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GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT 127
                                    GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGGCCACCCCCGCGATGCC
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                                                                                                          Conservative
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                                                                                                                          82.4%;
89.9%;
                                                                                                        0; Mismatches 359; Indels
                                                                                                                        Score 3306.6; DB 2;
Pred. No. 0;
                                                                                                                                           Length 4015;
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р Q	Qy db	B 8	φ φ	₽ Q	AG 4G	d dy	A 40	dd VQ	d dy	Qy de	Qy Db	Qу	Db dc	D QY	당왕	Qy db	Db Qy	מַ
1268 GTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 1327	1208 GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267 	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGACTCCCCGCAGGTTGCCCGGCCT 1207	1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGGGCTCGGAGGCTCGTGGA 1147	1028 CCCGGTGTACGCCGAGGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTTGGGACACGCCTTGTCC 1027	908 CACCICITIGGAGGGIGCGCTCICTGGCACGCGCACTCCCACCCATCCGIGGGCCGCCA 967	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	788 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	728 GAGGCGCGGGGGAGTGCCAAGAGTCTGCCGTTGCCCAAGAGGCCCAAGAGGCCTGGCGC 787	668 CTGGAACCATAGOGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	608 TCAGGCCCGGCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	488 CCGCGTGGGCGACGACGTGCTTGATTCACCTGCTGGCACGCTGCGCGCTCTTTTGTGCTGGT 547	428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGAGCGGGGCGTGGGGGGTTGCTGCTGCG 487	368 GCTGCTGGACGGGGGCCCGCGGGGGCCCCCCGAGGCCTTCACCACCACCAGGCGTGCGCAGCTA 427	308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 367	248 ACGGCCGCCCCCCCCCCCCCCCTCCTTCCGCCAGGTGTCCTGCCTG	181 GGACCCGGCGGCTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGC
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                                                                           3418 TCTGGGAGCTGCCATCCTTCCCACCTTGCTCT-----
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 GGGAAGCGCTGGGGGCCTGGTCTCCTGTTTGCCCCCATGGTGGGATTTGGGGGGGCCTG 3514
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Quantitating expression of mRNA encoding hTERT, the catalytic subunit of telomerase, as an indicator of cancer, by amplifying RNA using primers complementary to hTERT gene sequence and quantitating amplified products.
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Best Local Sim
Matches 3618;
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                                                                                                                                                                                                                                                                                                                   CTGAAATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTAACAGCTTCTACTTTCTGTTC
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                           The invention relates to animal tissues with carbohydrate antigens that are compatible for transplantation into human patients. The mammalian cell is inactivated homozygously for expression of alpha(1,3)galactosyltransferase (alpha1,30T) gene and comprises a transgene for alpha(1,2)-fucosyltransferase (alpha1,2FT). It is useful for producing animal tissue with carbohydrate antigens that are compatible for transplantation into human patients. The present sequence is human telomerase reverse transcriptase (TERT) cDNA used in the invention
                                                                                                                                                                                                                                                                                                                   Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 33-34; 71pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalian cells, useful for producing animal tissues with carbohydrate antigens that are compatible for transplantation into human patients.
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341 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA) D 1	1268 GTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTCACCCCAGC 1327	다. 당
4 6 6	Q B 4	1208 GCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267	dg VQ
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61 GCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTTGATGACGGCGGACAAGACGTTACTTCCCCCA	ם אם אם אל	1088 GCCTTCCTTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	4G 4G
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28 GAGCCCAGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGGCTGAGGAGATCCTGGC 21 GAGCCCAGGGGTTGGCTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 21 GAGCCCAGGGGTTGGCTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC	g 4g	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCTGTACCAGCTCGGCGCTGCAC 607	당성
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                                                                             ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCAGGCCGA 3480
                                                                                                                                                                                                                                                                                                                                                                                                                           GGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAGTGGTTTAACCCAACCACTGTCAG 3357
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                                                                                                                            GGGAAGCGCTGGGGGCCTGGTCTCCTCCTGTTTGCCCCATGGTGGGATTTTGGGGGGGCCTG 3514
                                                                                                                                                                                                                            TCTGGGAGCTGCCATCCTTCCCACCTTGCTCT------
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                                                                                                                                                                                                                                                                                                                         GCTCGTCTGCCCGCCCTCTCGTGGGGTGAGCAGCACCTGATGGAAGGGACAGGAGCTG 3417
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The present invention relates to a method for the discrimination of a cancer cell in a sample tissue, which involves determining the expression level of a reverse transcriptase component of telomorase in a cell constituting the sample tissue by an in situ hybridization of the mRNA of

Claim 2; Page 9-10; 16pp; Japanese.

a hybridization assay.

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RESULT 10
ABA97534
ID ABA97534
XX ABA97534
AC ABA975
XX ABA975
XX OS-AP
XX CANCE
XX Human
XX Fever
XX Homo
XX Homo
XX JP200
XX JP200
XX JP200
XX WP1;
XX WP1;
XX WP1;
XX WP1;
XX WP1;
XX Clair
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cancer cell discrimination method related human DNA
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(KAMI/) KAMIMORI M.
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present sequence is that of human telomerase reverse transcriptase (TERT) cDNA. The invention relates to the discovery that double-stranded interfering RNAs, such as short interfering RNAs (siRNA), which target telomerase RNA or TERT mRNA are capable of inhibiting telomerase activity. Inhibition of telomerase in cancer cells leads to telomera shortening, end-to-end chromosomal fusion, and apoptosis. Interference of telomerase activity can also be used for treatment of infertility, for contraception or sterilisation, for immunosuppression, for treatment of yeast, parasite and fungal infections, and in antiinflammatory therapies. As telomerase is active in a limited number of cell types, e.g. tumour cells, germiline cells, certain stem cells of the haematopoietic system. T and B cells, sun-damaged skin, and proliferative cervix, most normal cells are not affected by telomerase RNA interference therapy
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20-FEB-2002;
22-MAY-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel double-stranded short interfering RNA having sense and antisense nucleic acids which are complementary to each other and to target nucleic acid e.g., telomerase RNA or mRNA encoding telomerase reverse
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421 ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCGCCCACAGCCAC 455 GGGAAGCGCTGGGGCCTGGTCTCCTGTTTTGCCCCATGGTGGGATTTGGGG		3258 GULLIAGRAGITUTIACCCLITICGCATCAGAGGGTCACTCAGGACAGGCCAGACGCA 3350 3301 GACTCGACACCCTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCA 3360 3358 GUTCGTTTGCCCTCTCTCTGCGTGCACTCCTGGGGTCACTCAGGACAGCCCAGACGCA 3360	CTCAGTGGCAGTGCCTGCTGGTTGTTAGTGTTGTAGAGAATCTGAGTGAATCTG		TCAGCAAGITIGGAAGAACCCCACAITTICCTGCGCGTCATCTCT				8 48	2828 GCCGCCCACGGCTATTCCCCTGGTGCAGCCTGCTGCTGAATACCCGGACCCTGAAGT		701	4 4		- AMBICCIACGICAS ISCLAGGGGA CAGGGA CAGGGCTTCATCCICICICACGCGACACACAC		401

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                                                              22-OCT-2001;
20-FEB-2002;
22-MAY-2002;
                                                                                                                                                                                                                                                                                                                                                                       Telomerase reverse transcriptase; TERT: enzyme; RNA interference; short interfering RNA; siRNA; cancer; tumour; cytostatic; contraceptive; immunosuppressive; antiinfertility; fungicide; antiparasitic; antiinflammatory; human; gene therapy; gene; ss.
                                                                                                                                     16-OCT-2002; 2002WO-US033146.
                                                                                                                                                                            01-MAY-2003.
                                                                                                                                                                                                             WO2003034985-A2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence is that of human telomerase reverse transcriptase (TERT) cDNA. The invention relates to the discovery that double-stranded interfering RNAs, such as short interfering RNAs, which target telomerase RNA or TERT mRNA are capable of inhibiting telomerase activity. Inhibition of telomerase in cancer cells leads to telomerase shortening, end-to-end chromosomal fusion, and apoptosis. Interference of telomerase activity can also be used for treatment of infertility, for contraception or sterilisation, for immunosuppression, for treatment of yeast, parasite and fungal infections, and in antiniflammatory therapies. As telomerase is active in a limited number of cell types, e.g. tumour cells, germline cells, certain stem cells of the haematopoietic system, T and B cells, sun-damaged skin, and proliferative cervix, most normal cells are not affected by telomerase RNA interference therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel nucleic acid encoding or comprising interfering RNAs which target telomerase RNA, useful for inhibiting telomerase activity for treating cancer, infertility and disorders of the immune system.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
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608 TCAGGCCCGGCCCCCCCCCACACGCTAGTGGAACCCCGAAGGCGTCTGGGATGCGAACGCGC
                                                        541 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC
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                                                                                         eacroccaecracecraecaaegrereceeceeceecreraecaecreeceeceecee
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2768 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 2827 	708 CTPCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGCCTGCC	648 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCCCACGCGACCCCACGCGAAAAC	8 CAGCCTGTGCTACGCCGACATGGACAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT 	28 CAAGTCTACGTCCAGTGCCAGGGGATCCCGCAGGGTGCTCTCCACGCTGCTCTGCATGCTCTGCATGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCACGCTGCTCTCTCT	68 CANTEGER OF THE CENTRE OF THE CONTROL OF THE CON	408 GACCAGCCCGCTGAGGGATGCCGTCGTCXTCGAGCAGAGCTCCTCCCCTGAATGAGGCCAG	2348 GETCTGTACCTTGACAGACCTCCAGCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 2407	B TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCAGGTCCGCAAGGCCTTCAAGAGCCA 1	28 GAACAGCICACGAAGTCATGCCCAGCATCATCAAACCCCAGAACACGTACTGCGTGCG	168 GCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGGTACGACCATCCCCCA 161 GCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGTACGACCACCCCCCCA 161 GCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGTACGACCACCCTCCCCCA	01 CCTGGACGATATCCACAGGCCTGGCGCACCTTCGTGCTGCGGGCCCAGGACCC	4B CAGCATGCTCAACTACGAGCGGCGCGCCCCGGCCTCTGGGCGCCTCTGTGCTGGG	988 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTACCTCGAGGGTGAAGGCACTGTT	28 CITCATICCCAAGCCTGACGGGCTGGGGCGATTGTGAACTGGACTACGTCGTGGGGGGCGATTGTGAACATGGACTACGTCGTGGGGGCCGATTGTGAACATGGACTACGTCGTGGGAGGC	868 GARAGCAGAGGICAGGCAGCAGTCGGGAAGGCCAGGCCCGCCTGCIGACGICCAGACTCCG 861 GGAAGCAGAGGTCAGGCAGCATCGGGAAGGCCAGGCCCGCCTGCTGACGTCCAGACTCCG	808 CAAGITGCAAAGCAITGGAATCAGACAGCACTGAAGAGAGCTGCAGCTGCAGAGCTGTC 801 CAAGITGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 801 CAAGITGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC	TGTCACGGAGACCACGTTTCAAAAGAACAGCTCTTTTTCTACCGGAAGAGTGTCTGGAG	1748 ПСТСАСССАВСАССАТТТСАВАВАСАВСАСТСТТТТТСТВАССССАВАСАСТСТСТССАВС 1807

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3870 AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGGTCCCTGTGGGTCAA 3929
                                                                      3833 CACCATCCAGGTGGAGACCCTGAGAAGGACCCTGGGGAGCTCTGGGAATTTGGAGTGACCA 3892
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; telomerase reverse transcriptase; enzyme; hTERT; chromosome vulnerary; antiulcer; epithelial cell migration promoter; wound; epitheliastion; skin wound; lesion; burn; surgical incision; ulcer; epithelial cell; keratinocyte; epidermal; mucosal; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Jiang X,
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Composition for treating wounds and enhancing epithelization of a skin surface, comprises vector encoding telomerase reverse transcriptase or telomerized epithelial cells on a microparticle or a matrix.

Disclosure; Page 31-32; 68pp; English.

CC comprising a vector encoding telomerase reverse transcriptase (TERT) in CC an excipient or device, or comprises telomerised epithelial cells on a CC microparticle or a matrix suitable for topical administration or comprises telomerary and antiulcer controlled and controlle The present invention describes a pharmaceutical composition (I)

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human or animal. (I) is also useful for treating wounds of other epidermal surfaces including mucosal surfaces such as bronchus, mouth, nose, oesophagus, stomach, or intestine. The present sequence encodes human TERT (hTERT), which is given in the exemplification of the present invention. hTERT is located to chromosome 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
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                                                                                     TGCCCCTGAGCCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC
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RESULT 14 ACC44482 ID ACC44482 standard; DNA; 4015 BP. XX AC ACC44482; XX DT 29-AUG-2003 (first entry)	3930 3953 3990 4013	Oy 3810 TITCTGTGTTGTGGAGAACCCTGAGAAGGACCTGGGAGCTCTGGGAATTTGGAGTGACCA 3869 Db 3833 CACCATCCAGGTGAGAACCCTGAGAAGGACCCTGGGAAGTTTGGAGTGACCA 3869 Db 3833 CACCATCCAGGTGAGAACCCTGAGAAAGGACCCTGGGAAGTTTGGAGTGACCA 3892 Oy 3870 AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGAATGGGGGTCCCTGTGGGTCAA 3929 Db 3893 AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAA 3952	O CCAGTO O AGGGCO	Db 3661 GAGGGCAGCCAGCCAGCCAGCCCAGCCACCCC 3719 Db 3661 GAGGGCAGCCAGCCAGCCACCCCCC 3719 Db 3661 GAGGGCAGACACACCTGCCGTCT-TCACTTCCCACACAGGCCTCGGCTCCACCCCC 3719	3515 GCCTCCTGTTTGCCCTGGGAGTCTGAGGCCTGAGGTGTAGGCCGAGGCAGGC	3356 GELGALGECCECCECTECTEGEGALGGEGAGGEGAGGEGAGGEGAGGEGAGGEGAGGE	3 3 2 3 4 1 3 3 2 9 8 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Qy 3128 TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCT 3187

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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to the generation of primary preadipocyte cell strains that expresse telomerase reverse transcriptase (TERT the catalytic subunit of telomerase), and maintain and/or enhance replicative potential and maintain adipogenic capacity of the cell. This sequence represents the gene encoding the TERT protein. The cell strain can be used in research to study all aspect of adipogenesis, especially in relation to researching treatments for e.g. obesity. The cell can also be used to identify adipogenesis modulators for use as therapeutic agents such as hormones, growth factors, cytokines, enzymes, cholesterol binding proteins, cholesterol removing proteins or their combinations. Alternatively, the therapeutic agent may be an adipocytokine, preferably
                                                                                                                                                                                                                                                                                                                                                                                   Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                      adiponectin, or insulin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New primary preadipocyte strain expressing telomerase reverse transcriptase, useful in research applications, screening assays, clinical applications, and in the administration of therapeutic agents, particularly for obesity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gene; ds; human; telomerase reverse transcriptase; adipogenic capacity; primary preadipocyte cell; adipogenesis; obesity; adipocytokine; anorectic; adiponectin; insulin.
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2821 GCCGGCCCACGGCCTATTCCCCCTGGTGCGGCCTGCTGCTGATACCCGGACCCTGCAGCCAGTCAGAGCCCAGCCTCAACCCGACCTACTCCAGCCTAGTGCCCGGACCCTCCAGCCAG
2768 GACAGTGGTGAACTTCCCCTGTAGAAGACGAGGCCTGGGTGGCACGGCTTTTGTTCAGAT
708 701
2648 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGAAAAC
2588 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT
2528 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCCACGCTGCTCTG
2468 CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGGG
2408 GACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAG
2348 2341
2288 2281
2228 2221
2168 2161
2108 2101
2048 2041
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192 192
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aggtgtgccctgtacacaggcgaggaccctgcacctggatggggtccc .ttggggggaggtgctgtgggagtaaaatactgaatatatgagtttttca
810 TTTCTGTGTGTGGAAACCCTGAGAAGACCCTGGGAGCTCTGGGAATTTC 813 CACCATCCAGGTGGAGACCCTGAGAAGGACCCTGGGAGTTTC 833 CACCATCCAGGTGGAGACCCTGAGAAGGACCCTGGGAGTTTC 870 AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCT 870 AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCT
750 CTGAAATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTAACAGCTTCTACTT
CCTGGACACTTTGTCCAGCATCAGGAGGT
3630 CCCTCTCAGGAGCAGAGGCCGGGTCCTC
3575 CTTGTGCAAACCCAGGCCAAGGGCTTAGGAGGAGGCCAGGCC
3515 GCCTCTCCTGTTTGCCCCTGTGGGAGTGGGATTGGGCTGTCTCCCGTCCATGGCACTTAG
GEGGCCTGGTCTCCTGTTTGCCCCATGGTGGGATTTC
8 :
ACCTGATGGAAGGG!
3298 GGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAGTGGTTTAACCCAACCACTGT
3238 CCTCAGTGGCAGCAGTGCCTGCCTGCTGGTGTTAGTGTGAGGAGACTGAGTGAAT
IGAAAGCCAAGAACGCAGGTATGT TGAAAGCCAAGAACGCAGGGATGTCGCTGGGGG
3128 TCAGCAAGITTGGAAGACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGC
3068 CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCA
3008 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACA
2948 CGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTG
2881 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAA

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Search completed: Pebruary 29, 2004, 21:01:07 Job time: 998.857 secs

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Copyright (c) 1993 - 2004 Compugen Ltd.
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_6/ptodata/2/pna/US104A_COMB.seq:*
_6/ptodata/2/pna/US104B_COMB.seq:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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US-09-424-686F-12
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 Sequence 12, Application US/09424686F
GENERAL INFORMATION:
APPLICANT: Hagen, Gustav
APPLICANT: Siegmund, Hans-Ulrich
APPLICANT: Weichel, Walter
APPLICANT: Weichel, Walter
APPLICANT: Wick, Maresa
APPLICANT: Zubov, Dmitry
TITLE OF INVENTION: Use
FILE REFERENCE: Bayer 10,203
CURRENT APPLICATION NUMBER: US/09/424,686F
CURRENT FILING DATE: 1999-11-29
PRIOR APPLICATION NUMBER: PCT/EP98/03468
PRIOR FILING DATE: 1998-06-09
NUMBER OF SEQ ID NOS: 32
SOFTWARE: Microsoft Word
SEQ ID NO 12
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Match Length
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14 PCT-US02-14867.1
15 PCT-US02-31635-1
16 PCT-US02-33146-19
17 PCT-US02-33146-19
17 PCT-US02-33146-19
17 PCT-US09-06898.1
17 PCT-US99-07097-1
18 PCT-US99-07097-1
19 PCT-US99-07097-1
19 PCT-US99-07097-1
10 US-09-072-864-1
10 US-09-052-864-1
10 US-09-601-6453-1
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10 US-09-721-677-1
11 US-09-949-016-455-1
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US-10-105-963-1

US-10-143-536-1

US-10-208-243-1

US-10-388-578-1

US-10-388-578-1

US-10-388-578-1

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Best Local S
Matches 4012
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ORGANISM: Homo sapien
FEATURE:
NAME/KEY: CDS
LOCATION: (1)...(4012)
OTHER INFORMATION: Same sequences in SEQ ID NO: 1; nucleotide positions 1783
OTHER INFORMATION: to 3871 are according to SEQ ID NO: 7.
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921 GACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCG 1980	61 AGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	YTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGG 1 	YTGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTG 180	681 TCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTT 1740	621 TGCGCAGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGA 1680	561 ATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGC 1620	501 CCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGC 1560	441 AGGTGTACGGCTTCGTGCGGGCCTGCCCCGGCTGGTGCCCCCAGGCCTCTGGGGCT 1500	381 AGGAGGACACAGACCCCCGTCGCCGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGC 1440	321 CCCCAGCAGCCGGTGTCTGTGCCCGGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCCGAGG 1380	261 ACGCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTCA 1320	201 CCCGCCTGCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACC 1260	141 TCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGC 1200	081 AGCTGCGGCCCTCCTTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGC 1140 081 AGCTGCGGCCCTCCTTCCTACTCAGCTCTCTAGGCCCAGCCTGACTGGCGCTCGGAGGC 1140	021 CTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGC 1080	961 GCCGCCAGCACCACGCGGGCCCCCATCCACATTCGCGGCCACCACGTCCCTGGGACACGC 1020	901 AAGAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACCCAC
Db 3001 TGAAGTGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCA 3060	2941 TCAACCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGC	Qy 2881 TGGAGGTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCT 2940 Db 2881 TGGAGGTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCT 2940	Qy 2821 TTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGCTGGATACCCGGACCC 2880	Qy 2761 TGCGGAAGACAGTGGTGAACTTCCCTGTAGAAGACGACGGCCTGGGTGGCACGGCTTTTG 2820	Qy 2701 CGAAAACCTTCCTCAGGACCCTGGTCCCAGGTGTCCCTCAGTATGGCTGCTGGTGAACT 2760	2641 A 2641 A	2581 TG	2521 TCAGGGGCAAGTCCTACGTCCAGTGCCAGGGGTCCATCCTCCTCCACGC	2461 AG 2461 AG	2401 TGCAGGAGACCAGCCGGCTGAGGGAATGCGGTCGTCATCGAGCAGAACCTCCTCCCCTGAATG	2341 AGAGCACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACC	2281 GCGTGCGTCGGTATGCCGTGGTCCAGAAGGCCGTCCGTAGGCCTTCA	2221 TCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCACCAGACACGTACT	2161 AGGACCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGCGCGTACGACACCA 2161 AGGACCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGCGCGTACGACACCA 2161 AGGACCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGCGCGTACGACACCA	2101 TGCTGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGGGCCCCTGCGGGCCCTGTGCGGGGCCCTGCGGGCCCTGCGGGCCCTGCGGGCCCTGCGGGCCCTGCGGGCCCTGCGGGCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGGCCCCTGCGGCCCCTGCGGCCCCTGCGGCCCCTGCGGCCCCTGCGGCCCCTGCGCGCCCCTGCGGCCCCTGCGCCCCCTGCGCCCCCTGCGCCCCCTGCGCCCCCTGCGCCCCCTGCGCCCCCC	2041 CACTGTTCAGCGTGCTCAACTACGAGCGGGGGGGGGGGCCCCGGGCCTCCTGGGGGGCCTCTG	1981 TGGGAGCCAGAACGTTCCGCAGAGAAAAGACGCCCGAGCGTCTCACCTCGAGGGTGAAGG

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RESULT 2
US-09-424-686B-1
Sequence 1, Application US/09424686B GENERAL INFORMATION:
APPLICANT: Hagen, Gustav
APPLICANT: Siegmund, Hans-Ulrich
APPLICANT: Weichel, Walter
APPLICANT: Wick, Maresa
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TITLE OF INVENTION: Human Catalytic Telomerase Sub-Unit and its Diagnostic and

TITLE OF INVENTION: Therapeutic Use

FILE REFERENCE: Bayer 10,203

CURRENT APPLICATION NUMBER: US/09/424,686B

CURRENT FILING DATE: 1399-11-29

PRIOR APPLICATION NUMBER: PCT/EP98/03468

PRIOR FILING DATE: 1998-06-09

NUMBER OF SEQ ID NOS: 7

SOFTWARE: Microsoft Word

SEQ ID NO 1
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Best Local
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CURRENT FILING DATE: 1999-11-29
CURRENT FILING DATE: 1999-11-29
PRIOR APPLICATION NUMBER: PCT/EP98/03468
PRIOR PILING DATE: 1998-06-09
NUMBER OF SEQ ID NOS: 32
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501 CCAGGCACAACCTCCCCCACAGACACACGCTCTTTTTTCTACCGGAAGACCACGAAGACTCCTCTCAGGAAGACCTCTCTCAGGAAGACACAAGAAGATCAAGACTTCTCAGGAAGCTTCCTCAGGAAGACAACAAAGAAGATCAAGACTTCACCTGGGGAAGCCAAGAAGACAAGAAGATCAAGAAGATCAAGACCTTCGCTTGGGAAGACCAAGAAGATGAAGATGAAGACTGGGGAAGACCAAGAAGACAAGACTGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAA		661 AACGGGCCTGGAACCATRAGCGTCAGGGGGGGGGGGGGGG
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                                                                    GTGACCAAAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGGTCCCTGT 3922
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US-09-582-246-2
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GENERAL INFORMATION:
APPLICANT: Bayer Aktiengesellschaft
APPLICANT: Hagen, Gustav
APPLICANT: Wick, Maresa
APPLICANT: Zubov, Dmitry
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Best Local
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ITILE OF INVENTION: Regulatory DNA Sequences of the Gene for the Human Catalytic Tel
TITLE OF INVENTION: Subunit, and Their Diagnostic and Therapeutic Use
FILE REFERENCE: LeA 32 805
CURRENT APPLICATION NUMBER: US/09/582,246
CURRENT FILING DATE: 2000-09-21
PRIOR APPLICATION NUMBER: ECT/EP98/08216
PRIOR FILING DATE: 1998-12-22
PRIOR APPLICATION NUMBER: DE19757984.1
PRIOR APPLICATION DATE: 1997-12-24
NUMBER OF SEQ ID NOS: 44
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481 TGCTGCGCCGCGGGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCTGCGCGCTCTTTG
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                                                                              AGGTGCTGCCGCTGGCCACGTTCGTGCGGCCCTGGGGCCCCAGGGCTGGCGGCTGGTGC
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                                                                                                                GCTTCGCGCTGCTGGACGGGGCCCGCGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGC
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1381 AGGAGGACACAGACCCCGTCGCCTGGTCCACCTGCTCCCCAGCACAGCAGCCCCTGGC 1440 1381 AGGAGGACACAGACCCCGTCGCCTGGTCCAGCTGCTTCGCCCAGCACAGCAGCCCCTGGC 1440 1381 AGGAGGACACAGACCCCCGTCGCTGGTCCAGCTTCTCCGCCCAGCACACCCCAGCCCTTGGC 1440 1441 AGGTGTACGGCTTCGTGCGGGCCTGCCTCGCGCCGGCTGGTGCCCCCAGGCCTCTGGGGCT 1500 1441 AGGTGTACGGCTTCCTCGGGGCCTGCGCCTGCGCCCCAGGCCTCTGGGGCT 1500 1501 CCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGC 1560 1501 CCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAAGAAGTTCATCTCCCTGGGGAAGC 1560 1501 CCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAAGAAGTTCATCTCCCTGGGGAAGC 1560 1501 ATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAAGTTCATCTCCCTGGGGAAGC 1560 1561 ATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCTGCGGTGCGGGAACTTCGCCTTGGC 1620 1561 ATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAAGATGAGCGTGCGGGAACTTCGCCTTGGC 1620 1561 ATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCTGCGGTGCGGGAACTTCGCCTTGGC 1620	01 CCCGCCTGCCCAGCGCTACTGGCAAATG	081 AGCTGCGGCCCTCCTTCCTACTCAGCTCTGAGGCCCAGGCTGACTGGCGCTCGAAGGC 1	61 GCCGCCAGCACCACGGGCCCCCATCCACATCGCGGCCACCACGACGCTGGGACACGC 1	/81 GTGGCCTGCCCTGAGCCGAAGGCGCCGTTGGGCAAGGGTCCTGGGCCAACCCG 840	181 TGCTGCGCCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGTTTG 141 TGCTGGTGGCTCCCAGCTGCGCCCTACCAGGTGTGCGGGCGCGCTGTACCAGCTCGGCG 141 TGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCGCTGTACCAGCTCGGCG 141 TGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCGCTGTACCAGCTCGGCG 141 TGCTGGTGGCTCCCAGCTCCGCCCCACACGCTAGTGGACCCCGAAAGGCGTCTGGGATGCG 141 TGCTGCACTCAGGCCCCGGCCCCCACACGCTAGTGGACCCCGAAAGGCGTCTGGGATGCG 141 TGCTGCACTCAGGCCCGGCCCCACACGCTAGTGGACCCCGAAAGGCGTCTGGGATGCG 144 TGCTGCACTCAGGCCCGGCCCCACACGCCTAGTGGACCCCCGAAAGGCCTTGGCAAGCCCCAGCCCCGG 144 TGCTGCACTCAGGCCCGGCCCCACACGCCTAGTGGACCCCCGAAAGCCCTTGCCCTTGGGCCTTGCCCAAGCCCCAGCCCCGG 144 TGCTGCAACCATACCGTCAGGGAAGGCCCAAGTCCCCCTTGGGCCTTGCCCAAGAGGCCCAAGCCCCAGGC 144 TGCTGCAACAGGCCGAAAGTCTTGCCCTTGCCCTTGCCCAAGAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGAGCCCAAGGCCCAAGAGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGAGCCCAAGGCCCAAGAGCCCAAGGCCCAAGAGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGCCCAAGC
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		161 AGGACCCGCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGCGTACGACACCA	2041 CACTGTTCAGCGTGCTCAACTACGAGCGGGCGGCGGCCGGC	861 AGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAAGCCAAGCCCGCCTGCTGACGTCCA 921 GACTCCGCTTCATCCCCAAGCCTGACGGCAGCCCGGCCGATTGTGAACATTGGACTACGTCG 921 GACTCCGCTTCATCCCCCAAGCCTGACGGGCTGACGCCGAATTGTGAACATTGGACTACGTCG 921 GACTCCGCTTCATCCCCCAAGCCTTGACGGCTGCGATTGTGAACATTGAACATTGAACATTGACTCG 921 GACTCCGCTTCATCCCCAAGACAAAAAAAAAAGAGGGCCGAGCGTTCAACCTCGAGGGTGAAGG 981 TGGGAGCCAGAAACGTTCCGCAGAGAAAAAAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGG	1621 TGCGCAGGAGCCCAGGGGTTGGCTGTGTTCCCGGCCGCAGAGCACCGTCTGCGTGAGGAGA 1680

3661 AAGGGCTGAGTGTCCAGCACACCTGCCGTCT-TCACTTCCCCACAGGCTGGCGCTCGGCT 3719 3683 CTGCTTCCCAGTCACCGTCCTCTGCCCCTGGACACTTTGTCCAGCATCAGGAGGTTTCT 3742 3720 CCACCCCAGGGCCAGCTTTTCCTCACCAGGAGCCCGGGTTCCACTCCCCACATAGGAATA 3779 3743 GATCCGTCTGAAATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTTAACAGCTTCTACTT 3802	ggacctagacctctcctgtrtgccctgtagagattagactgtctcccgtccatagacact	3351 CTGTCAGGCTCGTCGCCCCTCTCGTGGGGTGAGCAGAGCACCTGATGGAAGGGACA 3410 3361 AGACGCAGCTGAGTCGGAGCTCCCGGGGACGACGTGACTGCCCTGGAGGCCCAGCCA 3420 3411 GGAGCTGTCTGGGAGCTCCCATCCTTCCCACCTTGCTCT	3181 CCTCCTCTGCTACTCCTGAAAGCCAAGAACACCCAGTATGT	TGAAGTGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCA	2701 CGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGAGTAACT 2760
; APPLICATION NUMBER: US 08/911,312 ; FILING DATE: 14-AUG-1997 ; PRIOR APPLICATION DATA: ; APPLICATION NUMBER: US 08/912,951 ; FILING DATE: 14-AUG-1997 ; PRIOR APPLICATION DATA: ; APPLICATION NUMBER: US 08/915,503 ; FILING DATE: 14-AUG-1997	PRIOR APPLICATION NUMBER: US 08/846,017 FILLING DATE: 25-APR-1997 PRIOR APPLICATION NUMBER: US 08/851,843 APPLICATION NUMBER: US 08/851,843 FILLING DATE: 06-MAY-1997 PRIOR APPLICATION NUMBER: US 08/854,050 FILLING DATE: 09-MAY-1997 PRIOR APPLICATION NUMBER: US 08/854,050 FILLING DATE: 09-MAY-1997 PRIOR APPLICATION DATA: PRIOR APPLICATION DATA:	; CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/974,549 FILING DATE: 19-NOV-1997 CLASSIFICATION DATA: PRIOR APPLICATION UNUMBER: US 08/724,643 FILING DATE: 01-OCT-1996 PRIOR APPLICATION DATA: APPLICATION NUMBER: US 08/844,419 FILING DATE: 18-APR-1997 FILING DATE: 18-APR-1997	ADDRESS: 726 ADDRESS: 726 ADDRESS: Compared and Townsend and Crew LLP Embarcadero Center, Eighth Floor Flooria	RESULT 5 US-08-974-549-343 US-08-974-549-343 Sequence 343, Application US/08974549 Sequence 119FORMATION: APPLICANT: Cech, Thomas R. APPLICANT: Lingner, Joachim APPLICANT: Nakamura, Toru APPLICANT: Chapman, Karen B. APPLICANT: Morin, Gregg B. APPLICANT: Harley, Calvin B. APPLICANT: Harley, Calvin B. APPLICANT: ANDRICEWS, William H. TITLE OF INVENTION: Human Telomerase Catalytic Subunit	Db 3780 GTCCATCCCAGATTCGCCATTGTTCACCCTCGCCCTGGCCCTCCTTTGCCTT 3832 Qy 3803 TCTGTTCTTTCTGTGTTGTGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGA 3862 Db 3833 CCACCCCACCATCCAGGTGGAGACCCTGAGAAGGACCCTGGGAATTTGGA 3892 Qy 3863 GTGACCAAAGGTGTGCCCTGTACACAGGAGGACCCTGGGAACCTCTGGGAATTTGGA 3892 Db 3893 GTGACCAAAGGTGTGCCCTGTACACAGGCGAGGACCCTGGATGGGGGTCCCTGT 3922 Qy 3923 GGGTCAAATTGGGGGGAGGTGCCCTGTACAAAATACTGAATATATGAGTTTTTCAGTT 3982 Db 3953 GGGTCAAATTGGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATGAGTTTTTCAGTT 3982 Qy 3963 TTGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

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GGGCACGTGGGAAACCCTGGCCCCCGCGCACCTACCGCGCACGTGCCGCGCAAGTGCC	PRIOR APPLICATION DATA: APPLICATION NUMBER: WO PCT/US97/17618 FILING DATE: 01-00T-1997 PRIOR APPLICATION DATA: APPLICATION NUMBER: WO PCT/US97/17885 FILING DATE: 01-00T-1997 APTIORNEY/AGENT INFORMATION: NAME: APPLE 01-00T-1997 ATTORNEY/AGENT INFORMATION: NAME: APPLE 01-00T-1997 ATTORNEY/AGENT INFORMATION: NAME: APPLE 01-00T-1997 ATTORNEY/AGENT INFORMATION: TELEPHONE: (415) 576-0300 REFERENCE/DOCKET NUMBER: 015389-002610US TELEPAX: (415) 576-0300 INFORMATION FOR SEQ ID NO: 343: SEQUENCE CHARACTERISTICS: LENGTH: 4037 base pairs TYPE: nucleic acid STRANDEDNESS: single TOPOLOGY: linear MOLECULE TYPE: CDNA FANTURE: NAME: APPLICATION: /note= "refined sequence of hTRT cDNA" US-08-974-549-343 US-08-974-549-343 US-08-974-549-343 Natches 3638; Conservative 3; Mismatches 356; Indels 46; Gaps 6; Natches 3638; Conservative 3; Mismatches 356; Indels 6;
	B & B & B & B & B & B & B & B & B & B &
1086 GCCCTCCTTCCTACTCAGCTCTCAGGCCCAGCCCTGACTGGCGTCGAGGCTCGTGGA 1147	668 CTGGAACCATAGCGTCAGGAAGGCCGGGGTCCCCTGGGCCTGCGAGCCCCGGGTTGCGAG [

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US-09-432-503-343
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GENERAL INFORMATION:
APPLICANT: Cech, Thomas R.
                                                                         INFORMATION FOR SEQ ID NO: 343:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/09/432,503
FILING DATE: 02-Nov-1999
CLASSIFICATION: «Unknown»
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/974,549
FILING DATE: «Unknown»
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
                  SEQUENCE CHARACTERISTICS:
LENGTH: 4037 base pairs
TYPE: nucleic acid
                                                                                                                             NAME: Apple, Randolph Ted
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002610US
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
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Harley, Calvin B.
Andrews, William H.
TITLE OF INVENTION: Human Telomerase Catalytic Subunit
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                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/911,312
FILING DATE: 14-AUG-1997
                                                                                                                                                                                                                             APPLICATION NUMBER: WO PCT/US97/17618
FILING DATE: 01-OCT-1997
APPLICATION NUMBER: WO PCT/US97/17885
FILING DATE: 01-OCT-1997
                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 08/912,951
FILING DATE: 14-AUG-1997
APPLICATION NUMBER: US 08/915,503
FILING DATE: 14-AUG-1997
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STRANDEDNESS: single
                                                                                           TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 08/851,843 FILING DATE: 06-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US 08/846,017 FILING DATE: 25-APR-1997
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Chapman, Karen B.
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Local Similarity 90.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: CDS
LOCATION: 56..3454
OTHER INFORMATION: /note= "refined sequence of hTRT cDNA"
SEQUENCE DESCRIPTION: SEQ ID NO: 343:
                                      848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTGTGTCACCTGCCAGACCCCGCCGAAGAAGC 907
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          GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC 900
                                                                                                                 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCCGGGCAGGAC 847
                                                                                                                                                              GAGGCGCGGGGCAGTGCCGAAGTCTGCCCGTTGCCCAAGAGGCCCAAGGCGTGGCGC
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                                                                                                                                                                                                 GAGGCGCGGGGCCAGCCCAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787
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                                                                                     TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGTCCTGGGCCCACCCGGGCAGGAC
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Pred. No. 0;
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3068 CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGTG	γŞ	88 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT	8
3008 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA	D Q		음 성
2948 CGCCTTCAAGGCTGGGAGGACATGCGTCGCAAACTCTTTTGGGGTCTTGCGGCTGAAGTG	B 8	1868 GGAAGCAGAAGGCAGCATCGGGAAGCCAGGCCCGCCCTGCTGACGTCCAGACTCCG 1927	유
⊢ თ	B 6	1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867	유
828 G 821 G	B &	1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	유 양
μ ω	g d	1688 CAAGTTCCTGCACTGACTGAGGGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTTTA 1747 	β 8
2708 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGACTATGGCTGCGTGGTGATCACTTGCCGGAA	g Qy	1628 GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687	β δ
<u>н</u> ө	, עס ממ	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCAG 1627	å S
P 00	do Vo	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567	β δ
21	B &	1448 CGGCTTCGTGCGGGCCTGCCTGCGGCGGCTGGTGCCCCCAGGCCTCTGGGGCTCCAGGCA 1507	유
, r a	}	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1447	음 성
, , ,	, B &	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCACGGCTCTGTGGCGGCCCCCGAGGAGGACGA 1387	용왕
, 1 &	94 Q	1268 GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGC 1327	유
, 1 B	da da	1208 GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267	g 8
ν α	ο φ Ο 2	1148 GACCATOTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCCT 1207	유왕
	Ŷ & .	1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	음 성
0 2 8	, p, 20	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	β &
4 4	ρ δ	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	유 성
μ μ	Db	908 CACCICTITGAAGGTGCGCTCTCTGGCACGCGCGACTCCCACCCATCCGTGGGCCGCCA 967	음 정

3188

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Sequence 343, Application US/09721477
GENERAL INFORMATION:
APPLICANT: Cech, Thomas R.
                                                                                                                                                                                                                                                                  3990 ААААААААААААААААААААААА
                                                                                                                                                                                                                                                                                                                                               3953 ATTGGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGRAAA 4012
                                                                                                                                                                                                                                                                                                                                                                                                    3930 ATTGGGGGGGGGTGCTGGGGAGTAAAATACTGAATATGAGTTTTTCAGTTTTGAAAA 3989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3833 CACCATCCAGGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCA 3892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3810 TTTCTGTGTGGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTTGGAGTGACCA 3869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3750 CTGAAATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTAACAGCTTCTACTTTCTGTTC 3809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3720 AGGGCCAGCTTTTCYTCACCAGGAGCCCGGCTTCCACTCCCCACATAGGAATAGTCCATC 3779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3690 CCAGTCACCGTCTCTGCCCCTGGACACTTTGTCCAGCATCAGGGAGGTTTCTGATCCGT 3749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3661 GAGTGTCCAGCACACCTGCCGTCT-TCACTTCCCCACAGGCTGGCGCTCGGCTCCACCCC 3719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3630 CCCTCTCAGGAGCAGAGGCCGCGTATCACCACGACAGAGCCCCGCGCCGTCCTCTGCTTC 3689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3541 CACACCCAGGCCCGCACCGCTGGGAGTCTGAGGCCTGAGTGTGTTTGGCCGAGGCCTG 3600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3515 GCCTCTCCTGTTTGCCCCTGTGGTGGGATTGGGCTGTCTCCCCGTCCATGGCACTTAGGGCC 3574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3358 GCTCGTCTGCCCGCCCTCTCGTGGGGTGAGCAGCACCTGATGGAAGGGAACAGGAGCTG 3417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3301 GACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCA 3360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3298 GGCTTAGGAAGTTCTTACCCCCTTTTCGCATCAGGAAGTGGTTTAACCCAACCACTGTCAG 3357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3181 CTGCTACTCCATCCTGAAAGCCCAAGAACGCAGGGATGTCGCTGGGGGGCCAAGGGCGCCGC 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3421 ACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCAGGCCGA 3480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3061 CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCA 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCAAGCT 3300
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGGTCCCTGTGGGTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGTCCCTGTGGGTCAA 3929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCAGATTC--GCCATTGTTCACCCYTCGCCCTGCCYT----CCTTTGCCTTCCACCCC 3832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCAGCGAGTGTCCAGCCAAGGGCT 3660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGGAAGCGCTGGGGGCCTGGTCTCTCTGTTTTGCCCCATGGTGGGATTTGGGGGGGCCTG 3514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGAGCCGAGCCGAGCCGGC 3420
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGTATGT------GCAGGTGCCTGG 3237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lingner, Joachim
                                                                                                                                                                                                                                                                                                                                                                                                                                                               3952
                                                                                                                                                                                                                                         ; SEQUENCE DESCRIPTION: /note= "refined sequence of hTRT cDNA" US-09-721-477-343
                        엉
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                                                                                                                                        Matches 3638;
                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ ID NO: 343:
                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: WO PCT/US97/17618
FILING DATE: 01-OCT-1997
APPLICATION NUMBER: WO PCT/US97/17885
FILING DATE: 01-OCT-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nakamura, Toru
Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin B.
Andrews, William H.
TITLE OF INVENTION: Human Telomerase Catalytic Subunit
                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES:
                                                 8 GCAGCGCTGCGTGCTGCGCACGTGGGAAGCCCTGGCCCCGGGCCACCCCCGGGATGCC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 08/851,843
FILING DATE: 06-MAY-1997
APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/911,312
FILING DATE: 14-AUG-1997
APPLICATION NUMBER: US 08/912,951
FILING DATE: 14-AUG-1997
APPLICATION NUMBER: US 08/915,503
FILING DATE: 14-AUG-1997
APPLICATION NUMBER: US 08/915,503
FILING DATE: 14-AUG-1997
                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                       NAME/KEY: CDS
LOCATION: 56..3454
OTHER INFORMATION:
                  GCAGCGCTGCGTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCGCGATGCC 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 4037 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Apple, Randolph Ted
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002610US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 08/974,549
FILING DATE: «Unknown»
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/09/721,477 FILING DATE: 22-Nov-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE: California
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (415)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Release #1.0,
                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94111-3834
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   576-0200
                                                                                                                                                                 Score 3320.2;
Pred. No. 0;
                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Version
                                                                                                                                     356; Indels
                                                                                                                                                                                          DB 31;
                                                                                                                                                                                          Length 4037;
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US-09-721-477-343

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148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT 12	.088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCGACTCCCACCCA	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	788 TGCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	728 GAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAAGAGGCGTGGCGC 787	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	608 TCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGGGCCTGCCAC 607	488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGGGG	368 GCTGCTGGACGGGGCCCGCGGGGGCCCCCCGAGGCCTTCACCAGCGTGCGCAGCTA 427	308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 367	248 ACGGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	188 GAACCCGGCGGCTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGC	128 GCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 187	68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTGCTGCGGAAGCCACTACCGCGAAGGTGCT 127
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8	ρ જ	ъ Q	D 5	S B &	S B 8) B &	} B &	S B &	\$ B #	5 B 5	}	;) B &	}	B &	\$ B &	, B &	B B
2228 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGTGCG	2168 GCCGCCTGAGCTGTACCTTTGTCAAGGTGGATGTGACGGCGCGTACGACACCATCCCCCA	01	44	1990 CAGARGUIICUCCAGAGAAAAACGGGCCGAGGGTCTCACCIICACCIICAGGIIGAGGCACTGTT 1981 CAGAACGTTCCGCAGAGAAAAACAGGGCCGAGGCGTCTCACCTCGAGGGTGAAGGCACTGTT 1981 CAGAACGTTCCGCAGAGAAAAACAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 1981 CAGAACGTTCTTCTGCGAGAGAAAAACAGGGCCGAGCGTCTCCTCCTCGAGGGTGAAGGCACTGTTGCGG	9 2 6	0 6 6	801	2 4 6	681	1628 CANCELLANGE INGELIGIALIC CONCENHANCE	561	501	441	381	21	9 6 6	201	141

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3008 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACAACATCTA 3067	PART CAGACTACTCCAGCTATGCCCGAACCTCCATCAGCCAGTCTCACCTTCAACCG 2947	GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 2827	2648 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCCACGCGAAAAC 2707	2528 CAAGTCCTACGTCCAGTGCCAGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTC 2587	GACCAGCCCGCTGAGGGATGCCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAG 2460 CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGG 2527	2288 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCA 2347
RESULT 8 // Sequence 343, Application US/09721506 // GENERAL INFORMATION: APPLICANT: Cech, Thomas R. Lingner, Joachim Nakamura, Toru Chapman, Karen B. Morin, Gregg B. Harley, Calvin B. Andrews, William H. TITLE OF INVENTION: Human Telomerase Catalytic Subunit NUMBER OF SEQUENCES: 727 CORRESPONDENCE ADDRESS: ADDRESSE: Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor CITY: San Francisco STATE: California COUNTRY: USA ZIP: 94111-3834 COMPUTER READABLE FOODM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible	3953 ATTGG 3990 AAAAA (4013 AAAAA	3833 CACCATCCAGGTGGAGACCCTGAGAAGACCCTGGATGTGGGGTCACCA 3870 AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGTCCCTGTGGGTCACA	3720 AGGGCAGCTTTTCYTCACCAGGAGCCCGGCTTCCACCTAACAGCATACGAATAGTCCATC 3779 3720 AGGGCAGCTTTTCYTCACCAGGAGCCCGGCTTCCACCTCCCACATAGGAATAGTCCATC 3779 3750 CTGAAATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTTAACAGCTTCTACTTTCTGTTC 3809	35/5 TITUTUMANCUAGUCUAGG	3481 ĠAĠCĀĠACACCĀĠCĀĠCĀĊCTĠŦĊĀĊĠĊĠĠĠĊŤĊTĀĊĠŦĊCCĀĠĠĀĠĠĠĠĠĠĠĊĊ 3515 ĠĊŢĊŢĊŢĠŢŢŢĠĊĊŢĠŦĠĠĠĀĠŢŢĠĠĠĊŢĠŢĊŢĊĊĠŦĊĊĀŢĠĠĀĊŢŢĀĠĠĊĊ 	3358 GCTCGTCTGCCGCCCTCTGGTGGGGTGAGCAGAGCACCTGATGGAAGGGACAGGAGCTG 3417 3361 GCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGAGCCCAACCCGGC 3420 3418 TCTGGGAAGCTGCCATCCTTCCACCTTGCTCT

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308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC	1 CI	QY 188 GGACCCGGCGCGTTTCCGCGCGCGCTGGTGGCCTAGTGCCTGGTGTGCCTTGGGACGC 247	Qy 128 GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 187	Qy 68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTGCTGCTGCGCAGCCACTACCGCGAGGTGCT 127	OY 8 GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCCCGGCGATGCC 67	Query Match 82.8%; Score 3320.2; DB 31; Length 4037; Best Local Similarity 90.0%; Pred. No. 0; Matches 3638; Conservative 3; Mismatches 356; Indels 46; Gaps 6;	; LOCATION: 563454 ; SEQUENCE DISCRIPTION: /note= "refined sequence of hTRT cDNA" ; SEQUENCE DESCRIPTION: SEQ ID NO: 343: US-09-721-506-343	MOLECULE TYPE: GDNA ; FEATURE: NAME/KEY: CDS	TYPE: nucleic acid STRANDEDNESS: single TROPOLOGY: 11:62:	; TELEPHONE: (415) 576-0200 ; TELEPAX: (415) 576-0300 ; INFORMATION FOR SEQ ID NO: 343;	NAME: Apple, Randolph Ted REGISTRATION NUMBER: 36,429 REFERENCE/DOCKET NUMBER: 015389-002610US TELECOMMUNICATION INFORWATION:	; FILING DATE: 01-OCT-1997 ; APPLICATION NUMBER: WO PCT/US97/17885 ; FILING DATE: 01-OCT-1997 ; ATTORNEY/AGENT INFORMATION:	APPLICATION NUMBER: US 08/915,503 ; FILING DATE: 14-AUG-1997 APPLICATION NUMBER: WO PCT/US97/17618	; FILING DATE: 14-AUG-1997; ; APPLICATION NUMBER: US 08/912,951 ; FILING DATE: 14-AUG-1997	FILING LATE: 09 MAY-1997 FILING LATE: 09 MAY-1	APPLICATION NUMBER: US 08/851,843 FILING DATE: 06-MAY-1997	APPLICATION NUMBER: US 08/846,017 FILING DATE: 25-APR-1997	; FILING DATE: 01-OCCT-1996; APPLICATION NUMBER: US 08/844,419; FILING DATE: 18-ABS-1007	; PRIOR APPLICATION DATA: APPLICATION NUMBER: US 08/724,643	; APPLICATION NUMBER: US/09/721,506 ; FILING DATE: 22-Nov-2000 ; CLASSIFICATION: <unknown></unknown>	; OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
B	Db Qy	B 5	;	\$ B &	₹ 4G €	dg dg	dy Vy	B &	} B \$	} B !	8 B 8	S & .	& A	80	g dg	망	Ŋ	da	ð	ρ. δ	d d
1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTGCCGCCAGCAGCAGCAGCCCCTGGCAGGTGTA 1447	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGA 1387	1260 GIGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTCACCCCAGC 1320.	CECCEASES IN THE THE CASE CECTAIN TO THE		CCCTCCTTCCTACTCACCTCTGAGGCCCAGCCTGACTGGCGTCGAGGCTCGTGGA	COCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG	GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC	908 CACCICITIEGRIGGIEGGETETETEGGAACGCGCCACTCCCACCCATCCGIEGGCCGCA 960	CONTRACTOR		TRICTCTGARGCCRARGCGGARGCCGARGCCGARGCAGGARGCAGGARGGAR		601 TCAGGCCCGGCCCCCGCCACACGCTAGTGGACCCCGAAAGGCGTCTGGGATGCGAACGGGC 660	608 TCAGGCCCGGCCCCCGCCACACGCTAGTGGACCCCCGAAGGCGTCTGGGATGCGAACGGGC 667	548 GGCTCCCAGCTGCGCCTACCAGGTGCGGCGCCGCTGTACCAGCTCGGCGCTGCCAC 607 541 GGCTCCCAGCTGCGCCTACCAGGTGCGGGCGCCGCTGTACCAGCTCGGCGCTGCCAC 600	ccecereaecakcakcarecrearrekeeraccreckcaccaccaccaccaccaccaccaccaccaccaccacca	488 CCGCGTGGGCGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCGC	CTGCCCAACACGGTGACCGACGCACTGCGGGGGAGAGCGGGGCGTGGGGGCTGCTGCTGCG	CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGGGGG	368 GCTGCTGGACGGGGGGGGGGGGCCCCCCGAGGCTTCACCAGCGAGCG	

B & B & B &	D	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	dd VQ VQ	y oy by oy	אַס עס עם	OV QQ	B & B &	₹ B Q	D Q G	40 40
2348 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 2407	2228 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGTGCG	108 CCTGGACGATATCCACAGGCCTGGCGCACCTTCGTGCTV 101 CCTGGACGATATCCACAGGCCTGGCGCACCTTCGTGCTV 101 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTV 168 GCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGG 166 GCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGG 1.61 GCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGG	CETTCCGCAGAGAAAAGAGGCCGAGCGTCTCACCTCGAGGGTGAAGGCIGGCCCCGGCCTCTCTGTCTCTCAACTACGAGCGCGGCGCGCCCCGGCCTCTGTCTG	928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1		748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1	1621 GAGCICHAGGES I GEOLDE IN INCIDENCE GAGAGAGAGAGAGAGAGAGAGATCCTGGC 1687	Section of the control of the cont	508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGC	1381 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1440 1448 CGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGGCCCCAGGCCTCTGGGGCTCCAGGCA 1507 1441 CGGCTTCCTGCCCTGCCCTGCCCCCCCCCCCAGGCCTCTGGGGCTCCAGGCA 1507
94 A A A A A A A A A A A A A A A A A A A	, pp	8 8 8 8	Q	90 P Q	\$ \$ \$	\$ B \$	Q Q dd	& B &	g &	g Q
3418 ICIGGGACCTTCAACCACCTTGCTCTT	GACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACGGAC	3181 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGAATGTCGCTGAGGGCCAAGGAATCTG 3237 3181 CTGCTACTCCATCCTGAAAGCCAAGAAACGCAGGATGTCGCTGGGGGGCCAAGGACTCAG 3240 3238 CCTCAGTGGCAGCAGCAGCCTGCCTGCCTGGTGTTAGTGTGTCAGGAACTGACTG	TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCT	3008 TCACAGCTETTTCTGCAATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 3067	881 948 941	2828 GCCGGCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCTGGAGGT 2887	701 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAA 768 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 768 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT	2648 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCCCACGCGAAAAC 2707		2528 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGCTCCATCCTCTCCACGCTGCTCTG 2587

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RESULT 9
US-10-325-810-343
Sequence 343, Application US/10325810
GENERAL INFORMATION:
  PRIOR APPLICATION DATA
APPLICATION NUMBER: US/09/402,181
FILING DATE: 29-Sep1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
APPLICATION NUMBER: US 08/851,843
FILING DATE: 06-MAY-1997
                                                                                                                                                                                                                                        SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/10/325,810
FILING DATE: 20-Dec-2002
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: Human Telomerase Catalytic Subunit
NUMBER OF SEQUENCES: 633
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Cech, Thomas R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3990 ААДАДАДАДАДАДАДАДАДАДА 4012
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3720 AGGGCCAGCTTTTCYTCACCAGGAGCCCCGGCTTCCACTCCCCACATAGGAATAGTCCATC 3779
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: San Francisco
STATE: California
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCAGATTC--GCCATTGTTCACCCYTCGCCCTGCCYT-----CCTTTGCCTTCCACCCC 3832
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Nakamura, Toru
Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin B.
Andrews, William H.
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REFERENCE/DOCKET NUMBER: 015389-002620US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPHONE: (415) 576-0300
INFORMATION FOR SEQ ID NO: 343:
SEQUENCE CHARACTERISTICS:
LENGTH: 4037 base pairs
TYPE: nucleic acid
STRANDENMESS: single
TYPE: TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 3638; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: 14-AUG-1997
APPLICATION NUMBER: WO PCT/US97/17885
FILING DATE: 01-OCT-1997
ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                   368
548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 GCGCGCTCCCCGCTGCGAGCCGTGCGCTCCCTGCTGCGCAGCTACCACTACCGCGAGGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 GCAGCGCTGCGTGCTGCGCACGTGGGAAGCCCTGGCCCCCGGCCACCCCCGCGATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B GCAGCGCTGCGTCCTGCTGCGCACGTGGGGAAGCCCCTGGCCCGGCCACCCCCGCGATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/911,312
FILING DATE: 14-AUG-1997
APPLICATION NUMBER: US 08/912,951
FILING DATE: 14-AUG-1997
APPLICATION NUMBER: US 08/915,503
                                                                  GCTGCTGGACGGGGCCCGCGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA 427
                                                                                                                                                                                                                                                                                                                                                      CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: CDS
LOCATION: 56..3454
OTHER INFORMATION:
                                                                                                           CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGCGGGGGCGTGGGGGGCTGCTGCG
                                                                                                                                                                                                CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGCGGGGGCGTGGGGGGCTGCTGCTGCG 487
                                                                                                                                                                                                                                        CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC
                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Ausenhus, Scott L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82.8%;

 Mismatches 356; Indels 46; Gaps

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Pred. No. 0;
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                                                                                                              547
                         607
                                                                  540
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D Q	Qу	Db Qy	Qу	dd VQ	9d VQ	dd VQ	₽ Q	용상	g &	Db Qy	dg V	dd Yo	Db Qy	B 8	Db Qy	dg VQ	gg Qy	DЪ
1628 GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCAG 1627	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567	1448 CGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA 1507	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCAGCAGCAGCCCCTGGCAGGTGTA 1447	1328 AGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGAAGAA 1387	1268 GTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCCGGTCACCCCAGC 1327	1208 GCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCCCAGGTTGCCCCGCCT 1207	1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGCAGCAGCAGCTGCG 1087	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	788 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	728 GAGGCGCGGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787	668 CIGGAACCATAGCGTCAGGAAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	608 TCAGGCCCGGCCACCACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	541 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 600
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                                                                 CCCAGATTC--GCCATTGTTCACCCYTCGCCCTGCCYT----CCTTTGCCTTCCACCCC
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US-08-974-524E-117, Application US/08974524E
; SEQUENCE 117, Application US/08974524E
; GENERAL INFORMATION:
Cech, Thomas R.
; APPLICANT: Cech, Thomas R.
; Thomas R.
; Thomas R.
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Nakamura, Toru
Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin B.
Harley, Calvin B.
Andrews, William H.
TITLE OF INVENTION: Telomerase R
                      REFERENCE/DOCKET NUMBER: 015389-002950US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
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MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30
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APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
                                                                                                                                     ATTORNEY/AGENT INFORMATION:
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ADDRESSEE: Townsend and Townsend and Crew LLP
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                                                                                      NAME: Einhorn, Gregory P. REGISTRATION NUMBER: 38,440
                                                                                                                                                           FILING DATE: 01-OCT-1997
APPLICATION NUMBER: WO PCT/US97/17885
FILING DATE: 01-OCT-1997
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                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 08/915,503
FILING DATE: 14-AUG-1997
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TELEFAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                       FILING DATE: 14-AUGAPPLICATION NUMBER:
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APPLICATION NUMBER: US 08/911,312
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Best Local Similarity
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SEQUENCE CHARACTERISTICS:
LENGTH: 4038 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
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RESULT 11	Db 4013 AAAAAAAAAAAAAAAAAAAA 4035	Су 3990 даладалалалалалалада 4012	Db 3953 ATTGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTCAGTTTTGRAAA	3893	DY 3810 INTERESTINGUES CONTROLLED TO THE SECOND CONTROLLED CONTROL	3750 3780	3690 3720	Db 3661 GAGTGTCCAGGACACCCGCGTCT-TCACTTCCCCACAGGCTGGCGTCGGCTCACCCCC	3575 3601	3515 GCCTCTCC 	3455 3481	3418 3421	3358 GCTCGTCT 3361 GCTGAGTC	QY 3298 GGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAGTGGTTTAACCCAACCACTGTCAG Db 3301 GACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCC B G G G G G G G G G G G G G G G G G G	B CCTCAGTG	1 8	Qy 3128 TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGGGGGTCATCTCTGACACGGCCTCCCT Db 3121 TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGGGGGTCATCTCTGACACGGCCTCCCT	Qy 3068 CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCA	 1 TCACAGCC
			ATATGAGTTTTTCAGTTTTGRAAA 4012		TRGABTGGGGTCCCTGTGGGTCAB 3929		GCATCAGGGAGGTTTCTGATCCGT 3749 CTCCCCACATAGGAATAGTCCATC 3779	GAGCCCCGCGCCGTCCTCTGCTTC 3689	GAGGCCAGGCCCAGGCTACCCCAC 3629			GCACCCGCCCACAGCCAGGCCGA 3480		GTGGTTTAACCCAACCACTGTCAG 3357		GTGCAGGTGCCTGG 3237	CGTCATCTCTGACACGGCCTCCCT 3187	ATGTGTGCTGCAGCTCCCATTTCA 3127	

Query Match Best Local Similarity 90.0%; Pred. No. 0; Matches 3638; Conservative 3; Mismatches 356; Indels 46; Gaps 6;	끊얾	MOLECULE TYPE: cDNA ; FEATURE: NAME/KEY: CDS	; TYPE: nucleic acid ; STRANDEDNESS: single ; TOPOLOGY: linear		; TELEPHONE: (415) 576-0200 ; INFORMATION FOR SEC TO NO: 117:	REGISTRATE NOTICE : 38,440 REFERENCE (DOCKET NUMBER: 015389-002950US TELECOMMUNICATION INFORMATION:	ATTORNEY/AGENT INFORMATION: NAME: Binhorn, Gregory P.	APPLICATION NUMBER: WO PCT/US97/17885 FILING DATE: 01-CCT-1997	APPLICATION NUMBER: WO PCT/US97/17618	; FILING DATE: 14-AUG-1997 APPLICATION NUMBER: US 08/915,503	; FILING DATE: 14-AUG-1997 ; APPLICATION NUMBER: US 08/912,951	8/911,	FILING DATE: 06-MAY-1997 APPLICATION NUMBER: US 08/854,050	FILING DATE: 25-ARR-1997 APPLICATION NUMBER: US 08/851,843		APPLICATION NUMBER: US 08/724,643 FILING DATE: 01-007-1996	; CLASSIFICATION: <unknown> ; PRIOR APPLICATION DATA:</unknown>	; CARRENT DEFENDING DATE: US/08/974,584C FILING DATE: 19-Nov-1997	; OPERATING SYSTEM: PC-DOS/MS-DOS ; SOFTWARE: Patentin Release #1.0, Version #1.30	; MEDIUM TYPE: Floppy disk ; COMPUTER: IBM PC compatible	COMPUTER READABLE FORM:	STATE: California	ADDRESSE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor		Andrews, William H. TITLE OF INVENTION: Telomerase Reverse Transcriptase	Chapman, Karen B. Morin, Gregg B. Harley, Calvin B.	Joachi , Toru	GENERAL INFORMATION: APPLICANT: Cech, Thomas R.	US-08-974-584C-117 ; Sequence 117, Application US/08974584C
Db Qy	Qy db	Db Q	} B	ρ	탕	S B	γQ	дb	δ	B. 7	8	B 4	₹ 8	P &	Ъ	Q	DЪ	8	Db x3	5 8	\$ 8	Db	. <i>S</i>	뮹	Ş	DЬ	\$	ß (á	?
1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	968 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	900 CACCICITIONAMOSINGUCICITINGUANGECACTECCACCCATECGINGGECEGECA, 967	GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC S	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	781 TGCCCCTGAGCCGGAGCGGCCCGTTGGGCAGGAGCCCCACCCGGGCAGCACCACCACCACCACCA		728 GAGGCGCGGGGCCAGTCCCAAGTCTGCCCGTTGCCCAAGAGGCCCAAGACGCCCAAGCGTGCCC 787	661 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCTGCCAGCCCCGGGTGCGAG 720	CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 72	601 TCAGGCCCCCCCCCCCACACGCTAGTGGAACCCCGAAGGCCTCTGGGATGCGAACGGGC 660	ひととして まんしんしん とうしん まんしん まんしん ましん ましま しょうしゅう ましま しんしん しんじん しんじん しんしん しんしん しんしん しんしん		GEOLOGIA SE LA CONTRACTOR DE LA CONTRACTOR DEL CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR	488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGGCACGCTGCGCGCGC		428 CCTGCCCAACACGGTGACCGACGCGACTGCGGGGGGGGGG	361 GCTGCTGGACGGGGCCCCCCGCGAGGCCTTCACCACCAGCGTGCGCAGCTA 420	4	301 CCGAGTGCTGCAGAGGCTGTGCGAGGGCGGGAAGAACGTGCTGGCCTTCGGCTTCGC 360		ACGGCCCCCCCCCCCCCCCCCCCCCCAGGTGTCCCTGAAGGAGCTGGTGGC		188 GGACCCGGCGGCTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGC	121 GCCGCTGGCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 180	128 GCCGCTGGCCACGTTCGTGCGGGCCCTGGGGCCCCCAGGGCTGGGTGCAGCGCGG 187	61 GCGCGCTCCCCCGAGCCGTGCGCTCCTGCTGCAGCACTACCGCGAGGTGCT 120	GCGCGCTGCCGAGCGTGCGCGCTGCCTGCGCAGCACTACCGTGCGTG		

21	210	Qy 2048 Db 2041	Qy 1988 Db 1981	Qy 1928 Db 1921	Qy 1868 Db 1861	Qy 1808 Db 1801	Qy 1748 Db 1741	Qy 1688 Db 1681	Qy 1628 Db 1621	Qy 1568	Qy 1508 Db 1501	Qy 1448 Db 1441	Qy 1388 Db 1381	Qy 1328 Db 1321	Qy 1268 Db 1261	Qy 1208 Db 1201	Qy 1148 Db 1141	Qy 1088
CCGCCTGAGCTGTACT	TGGACGATATCCA(TGGACGATATCCA(CAGCGTGCTCAACTACGAGCGGGC	CAGAACGTTCCGCAGAGAAAAGAG	CTTCATCCCCAAGCCTGACC	GGAAGCAGAGGTCAGGCAGC GGAAGCAGAGGTCAGGCAGC	CAAGTTGCAAAGCATTGGAA	TGTCACGGAGACCACGTTTC	CAAGTTCCTGCACTGGCTGI	GAGCCCAGGGGTTGGCTGTC	GCTCTCGCTGCAGGAGCTGI	CAACGAACGCCGCTTCCTCI CAACGAACGCCGCTTCCTCI	CGGCTTCGTGCGGGCCTGCC	CACAGACCCCCGTCGCCTGC	AGCCGGTGTCTGTGCCCGGC	GTGCCCCTACGGGGTGCTCC	GCCCCAGCGCTACTGGCAA!	GACCATCTTTCTGGGTTCCA	GCCCTCCTTCCTACTCAGCT
CAAGGTGGATG	ceraceca.cerrecaraceracea.ceracea.cerrecaca.cerracea.cerracea.cerracea.cerracea.cerracea.cerracea.cerracea.cer	GGGCGGGCCCCGGCCTCTGGGCGCCTCTG	AGAGGGCCGAGCGTCTCACCTCGAGGGTGAA 	GCCTGACGGCCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAG	GCAGCATCGGGAAGCCAGGCCCGCC 	GTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC	locacgittcaaaagaacaggctcttttctaccggaagagtgtctgga 	CCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGTCTTTCTT	sccaggggttggctgtgttccggccgcagagcaccgtctgcgtgaggagatcctgg 	CTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCTGCGCACA	.GGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 	GGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA	KGACCCCGTCGCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA	:0GGTGTCTGTGCCCGGGAGAAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGAAGAAGA 	CCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTCACCCCAG	CAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 	CATCTTICTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCCT	GCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA
CACCATCC	CGTGTGCGGGGCCCAGGACCC	1 1 1 1 1 1 1 1	TCGAGGGTGAAGGCACTGTT TCGAGGGTGAAGGCACTGTT	ATGGACTACGTCGTGGGAGC ATGGACTACGTCGTGGGAGC	OCAGGCCCGCCTGCTGACGTCCAGACTCCG	GTGCAGCTGCGGGAGCTGTC	TACCGGAAGAGTGTCTGGAG	CTGCTCAGGTCTTTCTTTA	CTGCGTGAGGAGATCCTGGC	GACTGCGCTTGGCTGCGCAG 	TCCCTGGGGAAGCATGCCAA TCCCTGGGGAAGCATGCCAA	GGCCTCTGGGGCTCCAGGCA 	AGCAGCCCCTGGCAGGTGTA	gcggcccccgaggaggagga 	CGAGCTGCGGTCACCCCAGC	CTGCTTGGGAACCACGCGCA	CCCCGCAGGTTGCCCCGCCT	GGCGCTCGGAGGCTCGTGGA
N	21		2047	1987 1980	1927	1867	1807	1747 1740	1687 1680	1627	1567	1507	1447 1440	1387 1380	1327	1267	1207	1147
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RESULT 12
US-09-026-981-35
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                                                                                                                                                                                 APPLICANT: Counter, Christopher M.
APPLICANT: Meyerson, Matthew
APPLICANT: Weinberg, Robert A.
TITLE OF INVENTION: Telomerase Catalytic Subunit Gene
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                           CITY: Lexington STATE: MA
                                                 ZIP: 02173
                                                                     COUNTRY:
                                                                                                                                                                ADDRESSEE:
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                                                                          USA
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/054,549
FILING DATE: 01-AUG-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/047,151
FILING DATE: 20-MAY-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/036,750
FILING DATE: 20-FEB-1997
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,27
REFERENCE/DOCKET NUMBER: WHI97-11p4;
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: 781-861-9540
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/064,322
FILING DATE: 30-OCT-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 4023 base pairs
                        421
                                                                                                                 361
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                                                        CTACCTGCCCAACACGGTGACCGACTGCGGGGGAGCGGGGCGTGGGGGGCTGCTGTT
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2585 CTGCMSCCTGTGCTACGGCGACATIGGAGAACAAGCTGTTTGCGGGGATTCGGCGGGACGG 2649 [da	1505 GCACAACGAACGCCCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGC 1564	Db Qy
GGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCACGCTGCT GGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCACGCTGCT GGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCACGCTGCT	40 70 70	1445 GTACGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCCAGGCCTCTGGGGCTCCAG 1504	Фу
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3124 3120	TGCAGGCGTACAGGTTTCACGCATGTGT	
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2824 2820	CTTCCCTGTAGAAGACGAGGCCCTG	
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LICATION NUMBER OF THE PROPERTY OF THE PROPERTY OF APPLICATION NUMBER OF APPLICATION NUMBER OF APPLICATION NUMBER OF THE PROPERTY OF APPLICATION NUMBER OF THE PROPERTY OF THE	MEDIUM TYPE: PI COMPUTER: IBM P OPERATING SYSTEM SOFTWARE: PACEN URRENT APPLICATION UNUMB FILING DATE: 14 CLASSIFICATION IN APPLICATION NUMB FILING DATE: 10 RICH APPLICATION NUMB FILING DATE: 01 RICH APPLICATION NUMB FILING DATE: 18 RICH APPLICATION NUMB FILING DATE: 18 RICH APPLICATION NUMB	SULT 13:08-911-312-1 Sequence 1, Application US/08911312 GENERAL INFORMATION: APPLICANT: Cech, Thomas R. APPLICANT: Lingner, Joachim APPLICANT: Nakamura, Toru APPLICANT: Nakamura, Toru APPLICANT: Chapman, Karen B. APPLICANT: Harley, Calvin B. APPLICANT: Harley, Calvin B. APPLICANT: Andrews, William TITLE OF INVENTION: Telomerase Reverse Transcriptase NUMBER OF SEQUENCES: 170 CORRESPONDENCE ADDRESS: ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, Eighth Floor STATE: California COUNTRY: USA ZIP: 94111-3834 COMPTITER READALS FORM.	3987 AAAAAAAAAA 3997 4013 AAAAAAAAAA 4023	3927 CAAATTGGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATTGAGTTTTTCAGTTTTGA 3986 	3747 CGTCTGAAATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTAACAGCTTCTACTTTCTG 3806 3780 ATCCCCAGATTGTCCATGTTCACCCCCCCCCCTTGCCTTTCCCTTTCCCCCCCTCCAC 3832 3807 TTCTTTCTGTGTGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGA 3866

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REGISTRATION NUMBER: 38,440
REFERENCE/DOCKET NUMBER: 01536
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPHONE: (415) 576-0200
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 7029 base pairs
TYPE: NUCLEIC acid
STRANDEDNESS: single
TOPOLOGY: linear
TOPOLOGY: linear
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Best Local Similarity
Matches 3619; Conserv
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GCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCG
                          GCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCG 725
                                                                                                       ACTCAGGCCCGGCCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGG
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transcriptase (hTRT)"
/note= "cDNA contained in plasmid
pGRN121"
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                                                                                                                                                                                                                                                                                                                              CACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCC
                   TATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGG
                                                                                                             TACGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGG
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                                                   TATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGG 1805
                                                                                                                                                                                    AGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTG
                                                                                                                                                                                                                                                                    AAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGACTGCGCTTGGCCTGCGC 1625
                                                                                                                                                                                                                                                                                                     CACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCC
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Qy	B &	A 42	g Q	QУ	QУ	Qу	QQ da	d dy	Qy db	Qу	Q y Db	Qy dd	gg QQ	D Q	Qy db	Db Qy	. Db Qy	B 6
886 GTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAAC 29	2826 AIGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGCATACCCGGACCCTGGAG 2885	2766 AAGACAGTGGTGAACTTCCCTGTAGAAGACGACGGCCTTGGGTGGCACGGCTTTTGTTCAG 2825	2706 ACCTICCTCAGGACCCIGGTCCGAGGTGTCCCTGAGTATGGCTGGGTGGTGATGACTTGCGG 2765	2646 CTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCCTCACCCCACGCGAAA 2705	2586 TGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGAATTCGGCGGGACGGG 2645	2526 GGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCCACGCTGCTC 2585	2466 AGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGG 2525	2406 GAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCC 2465	2346 CACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGGTCACCTGCAG 2405	2286 CGTCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGC 2345	2226 CAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCCAGAACACGTACTGCGTG 2285	2166 CCGCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGGGGGG	2106 GGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGGCCCAGGAC 2165	2046 TICAGCGIGCTCAACTACGAGCGGGCGCGCGCCCCGGCCTCCTGGGCGCCTCTGTGCTG 2105	1986 GCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGGGTCTCACCTCGAGGGTGAAGGCACTG 2045	1926 CGCTTCATCCCCAAGCCTGACGGGCTGCGGGCGGATTGTGAACATGGACTACGTCGTGGGA 1985	1866 TCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	1806 AGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTG 1865
	 																	
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7 3928 AAATTGGGGGGAGGTGCTGTGGGAGTÄAAATACTGAATATATGAGTTTTTCAGTTTTGAA 3987	7 3868 CAAAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCTGGATGGGGTCCCTGTGGGTC 3927		3/48 GICIGAARICAGGCAIGIGGGACCIGGGGICCIGAGGITAACAGGTTAGCATTGTGT	3-88 TECCHATCACCATCCTCTCCCCCGCACACTTTGTCCAGCATCAGGAAGTTTCCTATCCC	4385 CTGAGTGTCCAGCACACCTGCCGTGTTCACCACCACAGGCTGGCGTCCACC	35/3 CCCTTETICARACCCAGGCCAGGCCAGGCCCAGGCCCAGGCCAGGCC	3513 TGGCCTCTCCTGTTGGCCTGTGGGATTGGGCTGTCCCGTCCATGGCACTTAGGG 4265 CCCACACCCAGGCCCGCACCGCTGGGAAGTCTGAGGCCTGAGTGAG	4205 GAGAAGCAGCAGCAGCCTGTCACGCCGGGCTCTACGTCCAGGGAGGG	4145 GCACTGCGCTCCAGACCTTCCTGGACTGATGGCCACCGCCCACAGGCC	4085 CAGCTGAGGGAAGCTCCCGGGGGACGCGAACGCGAACCCGAGGAACCGCAACCCG	1250 1999C 1ANGHARI I TIACCCITITCGERICAGAAGIGTITACCCACCACTGIC	3236 GCCTCAGTGCAGCAGTGCCTGCTGGTGTAGTGTACTCAGAGACACTGAGTGAATC	3186 CTCTGCTACTCCTGAAAGCCAAGAAGCAGGTATGT	3126 CATCAGCAAGTTTGGAAGACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCC	3785	3006 TETCACAGCCTGTITCTGGATTIGCAGTGAAGGCTTCCAGACGGTGTGCACCAACATC	3665 CGCGGCTTCAAGGCTGGGAAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAG	3605 GTGCAGAGCTACTCCAGCTATGCCCGGACCTCCATCAAGCCCAGTCTCAACCTTCAAC

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RESULT 14
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APPLICANT: Nakamura, Toru
APPLICANT: Chapman, Karen B.
APPLICANT: Morin, Gregg B.
APPLICANT: Harley, Calvin B.
APPLICANT: Harley, Calvin B.
APPLICANT: Andrews, William
TITLE OF INVENTION: Telomerase Reverse Transcriptase
NUMBER OF SEQUENCES: 171
CORRESPONDENCE ADDRESS:
ADDRESSE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1, Application GENERAL INFORMATION:
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APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/851,843
FILING DATE: 06-MAY-1997
                                                                                                                                                                    NAME: Einhorn, Gregory P.
REGISTRATION NUMBER: 38,440
REFERENCE/DOCKET NUMBER: 015389-002500US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                MOLECULE TYPE:
                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 7029 base pairs
                                                                                                                                                                                                                                                                                                                         FILING DATE: 14-AUG-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US 08/912,951
FILING DATE: 14-AUG-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/915,503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 536 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 09-MAY-1
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
      NAME/KEY:
                                                                         STRANDEDNESS:
TOPOLOGY: 1i1
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                                                                                                           TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US 08/854,050 FILING DATE: 09-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
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Best Local Similarity
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OTHER INFORMATION: to
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OTHER INFORMATION: po
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906 GCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACCCCATCCCATCCGTGGGCCGC 965
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                                                                                                                                                                                                                                                                                                                                                                     GCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCG 725
                                                                                                                                                                                                                                                                                                                                                                                                              ACTCAGGCCCGGCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGG
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                                                                                                           ACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCGCCGAAGAA 905
                                                                                                                                                       GCTGCCCCTGAGCCGGAGCGGACGCCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGG
                                                                                                                                                                                                                                                                              AGGAGGCGCGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGC 785
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transcriptase (hTRT)"
/note= "cDNA contained in plasmid
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CCAGAACGTTCCGCAGAGAAAAGAGGCCGAGCGTCTCACCTCGAGGGTGAAGGC	COCTTCATCCCAAGCCTGACGGCTGCGGCCGATTGTGAACATGGGCTACGTCCACCTACGACCTGCGGCTGCGGCTGATTGTGAACATGGACTACGTCACGTACGGCTGACGGCTGCGGCCGATTGTGAACATGGACTACGTCACGTACGGCTGCGGCCGATTGTGAACATGGACTACGTCACGTCGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGGCTGACGACGACGACGACGACGACGACGACGACGACGACGACG	CGGAAGCAGAGGTCAGGCAGCATCGGGAAAGCCAGGCCGCCCTGCTGACGTC	GCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGA 	ATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGG	GCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT	AGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTG	AAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGACTGCGCTTCGCTGCG	CACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCIIIIIIIIII	TACGGCTTCGTGCGGGCCTGCCTGCGCCGGGCTGGTGCCCCAGGGCCTCTGGGGCTCCAGG	GACACAGACCCCCGTCGCCTGGTGCAGCTGCTGCCCAGCACAGCAGCAGCCCCTGGCAGGTG	CAGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAG 	CCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGGAGCTGCGGTCACCCCA	CCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAAC 	GAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCC	CGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG	CCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTG	CAGCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACG
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RESULT 15
PCT-US01-15774-3
Sequence 3, Application PC/TUS0115774
GENERAL INFORMATION:
APPLICANT: Isis Pharmaceuticals, Inc.
APPLICANT: Brett P. Monia
APPLICANT: William Gaarde
APPLICANT: Susan M. Freier
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SEQ ID NO 3
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Best Local Similarity
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TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: CDS
LOCATION: (56)...(3454)
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TITLE OF INVENTION: ANTISENSE MODULATION OF TERT EXPRESSION
FILE REFERENCE: ISPH-0568
CURRENT APPLICATION NUMBER: PCT/US01/15774
CURRENT FILLING DATE: 2001-05-15
PRIOR APPLICATION NUMBER: 09/572,423
PRIOR APPLICATION NUMBER: 09/572,423
PRIOR FILING DATE: 2000-5-16
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Pred. No. 0;
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3989 4012	3930 ATTGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAA
3929 3952	3870 AAGGTGTGCCCTGTACACAGGCGAGGACCCTGGACCTGGATGGGGGTCCCTGTGGGGTCAA
3869 3892	3810 TTTCTGTGTTGTGGAGACCCTGAGAAGGACCCTGGGAGCTCTGGGAATTTGGAGTGACCA
3809	3750 CTGAAATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTAACAGCTTCTACTTTCTGTTC
3749 3779	3690 CCAGTCACCGTCCTCTGCCCCTGGACACTTTGTCCAGCATCAGGGAGGTTTCTGATCCGT
3689	3630 CCCTCTCAGGAGCAGAGGCCGCGTATCACCACGACAGAGCCCCGCGCCCGTCCTCTGCTTC
3629 3660	3575 CTTGTGCAAACCCAGGCCAAGGGCTTAGGAGGAGGCCAGGCC
3574 3600	3515 GCTCTCCTGTTTGCCCTGTGGGATTGGGCTGTCTCCCCGTCCATGGCACTTAGGGCC
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3127 3120	3068 CAAGATCCTGCTGCAGGGGTACAGGTTTCACGGATGTGTGCTGCAGCTCCCATTTCA
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Search completed: March 1, 2004, 22:58:46 Job time: 8185.61 secs

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        nucleic search, using sw model
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US-10-767-701-11516 US-10-767-701-11623 US-10-767-701-11485 US-10-767-701-1291 US-10-767-701-4204 US-10-767-701-4204 US-10-767-701-42022 US-10-767-701-20222 US-10-767-701-1801 US-10-767-701-1801 US-10-767-701-1806 US-10-767-701-14298 US-10-767-701-14298 US-10-767-701-14296 US-10-767-701-4366 US-10-767-701-4396 US-10-767-701-4396 US-10-767-701-4396 US-10-767-701-4396 US-10-767-701-4396 US-10-767-701-4396 US-10-767-701-4396 US-10-767-701-4396 US-10-767-701-4396 US-10-767-701-4396 US-10-767-701-4396

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GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Kovalic, David K.
APPLICANT: Cao, Yinua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Plants and Wolecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(5335)B
CURRENT EPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 8767
LEMENT 1016
                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA ORGANISM: Sorghum bicolor
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188; Conserv
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CCTCCTTCCGCCAGGTGTCCTGCCTGAAGGAGCTGGTGGCCCGAGTGCTGCAGAGGCTGT 327
                                                                                                                                                             Conservative
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49.1%; Pred. No. 0.00015;
ative 0; Mismatches 194; Indels 1
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US-10-767-701-25070
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                                  Sequence 25070, Application US/10767701

GENERAL INFORMATION:

APPLICANT: Kovalic, David K.

APPLICANT: Zhou, Yihua

APPLICANT: Cao, Yongwei

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement

FILE REFERENCE: 38-21 (53535) B

CURRENT APPLICATION NUMBER: US/10/767,701

CURRENT FILING DATE: 2004-01-29

NUMBER OF SEQ ID NOS: 63128
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SEQ ID NO 4204
LENGTH: 658
SEQ ID NO 25070
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Best Local :
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APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
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                                                                                                                                     TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement FILE REFERENCE: 38-21(5355)B
FURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 253
LENGIN: 574
TYPE: DNA
CREANISM: Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 253, Application US/10767701 GENERAL INFORMATION:
Matches 192; Conservative
                 Query Match 1.4%; Score 56.8; DB 6; Best Local Similarity 48.0%; Pred. No. 0.00077;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 226;
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                                                                                                                                                                                                                                                                                                                                             APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Kovalic, David K.
                                                                                            FEATURE: OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS106538_1
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TYPE: DNA
ORGANISM: Sorghum bicolor
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0; Mismatches 207; Indels
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GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: RHEUMATOID ARTHRITIS, METHODS OF DETECTION AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                     Matches 160;
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 10913
                                                                                                                                                                                                                                                                                                                                                                        Query Match
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CURRENT APPLICATION NUMBER: US/10/767,471
CURRENT FILING DATE: 2004-01-30
                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE: MISC_feature
LOCATION: (1)...(40000)
OTHER INFORMATION: n = A,T,C or G,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
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                                                                                                                      24648 GCGCCGCGCCGCCCGTGCCCGGGCCGGCCGGGGGAACTGCTGCCGCGGCTGCAGC 24589
                                                                                                                                                                                                                                                              121 AGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGCTGGTGC 180
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                                                                                                                                                                                                                                                                                               1 GTTTCAGGCAGCGCTGCTGCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCGG 60
                                                    CGATGCCGCGCGCTCCCCGCTGCCGAGCCGTGCGCTGCTGCTGCGCAGCCACTACCGCG 120
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 4866
LENGTH: 666
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Best Local :
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                                       708 CTGCCAGCCCGGGTGCGAGGAGGCGCGGGGGC 740
                                                                                   454 CCCCCCCGCCGCGGCGGCGTCTGGTCGCCGGCCGATGCCCTCGGTGGCTGCGGCCGGGC
                                                                                                                                                                                                                                                           335 GTCGCCCCGCTGCTCACGCTGTCCCCCCCGGCCGGTCCAGCGGCCTGCCGCCCCCGCCCAGC 394
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US-10-767-701-4186 ; Sequence 4186, Application US/10767701 ; GENERAL INFORMATION:

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RESULT 8
US-10-767-701-2473/c
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                                                                                                                                                            Sequence 2473, Application US/10767701

Sequence 2473, Application US/10767701

GENERAL INFORMATION:

APPLICANT: Kovalic, David K.

APPLICANT: Zhou, Yihua

APPLICANT: Cao, Yongwei

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement

FILE REFERENCE: 38-21 (53535) B

CURRENT APPLICATION NUMBER: US/10/767,701

CURRENT APPLICATION TO SEQ ID NOS: 63128

SEQ ID NO 2473

LENGTH: 570
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APPLICANT: Zhou, Yongwei
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 4186
LENGTH: 584
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Best Local Similarity
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                                     NAME/KEY: unsure
LOCATION: (1)..(570)
OTHER INFORMATION: unsure at all n locations
                                                                                                                   ORGANISM: Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Sorghum bicolor
OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS41826_1
                                                                                                      FEATURE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCCGCCCCCTCCTTCCGCCAGGTGTCCTGCCTGAAGGAGCTGGTGGCCCGAGTGCTGCA 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCCCTGGGACGCACGGCCGCCCCC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGCCGAGCCGTGCGCTGCTGCGCAGCCACTACCGCGAGGTGCTGCCGCTGGCCAC 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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Pred. No. 0.0029)
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APPLICANT: Cao, David K.

APPLICANT: Cao, Yongwei

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement

FILE REFERENCE: 38-21 (53535)B

CURRENT APPLICATION NUMBER: US/10/767,701

CURRENT FILING DATE: 2004-01-29

NUMBER OF SEQ ID NO 4466

LENGTH: 580

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                                                                                                                                                                                                                                                                                                                                                                                   Query Match
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Sorghum bicolor FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS80039_1
                                                                                                                                                                                                                                                                                                                                               Local Similarity
les 147; Conserv
357
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                                                                                                                                                                       132 CTGGCCACGTTCGTGCGCCCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGGGAC 191
                                                                                                                                                                                                           813 GTTGGGCAGGGGTCCTGGG 831
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                                                                                                                                                                                                                                           72 GCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCGCGAGCCACTACCGCGAGGTGCTGCCG 131
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CTCCCCCCCGGGCCCGCTCCCCCGCCAGTCCGCCCACCT 397
                               cceececimmececececimesecceaereccimeserecerecerecerecerece
                                                                                                                                      CGCTGCGTCCTGCTGCACGTGGGAAGCCCTGGCCCCCGGCCACCCCGCGATGCCGCGC
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                                                                                                                                                                                                                                                                                                                                                 Score 53.4; DB 6; Length 580; Pred. No. 0.0043; 0; Mismatches 126; Indels
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RESULT 11
US-10-767-701-30024
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(5355)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEC ID NOS: 63128
SEQ ID NO 30024
                                                                                                                                                                                                                                                                                                                                   Sequence 30024, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
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APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21 (53535) B
CURRENT PPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
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SEQ ID NO 9739
LENGTH: 1092
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ORGANISM: Sorghum bicolor
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RESULT 12
US-10-767-701-8805
, Sequence 8805, Application US/10767701
; GENERAL INFORMATION:
; APPLICANT: Kovalic, David K.
; APPLICANT: Zhou, Yihua
; APPLICANT: Cao, Yongwei
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Best Local |
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement FILE REFERENCE: 38-21(53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
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                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS56975_1
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                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
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                                                                                                                                                                                                                                                                                   Local Similarity
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mes 167; Conserv
306 GCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGAAGAACGTGCTGGCCTTCGGCTTC 365
                                       143
                                                                                                                                                                                                                           126 CTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGCAGCGC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              236 CATGGCCGCGGCGCGCGTGGCGTGCGCGCGCGGGTTCGGCGCCGTTAACCCCCGTCGCTGG
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                                                                                                               116 GCCGGCCGCCACGCTGCTCCCCTACGCCGCGCAGCTGGGCGCGGGCCCTGGCGTGGGCGCC
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                                     CTCTCTCTCTGTATGCGCCATTGCGGCGCCCCTGGGGGCCCACCACGGCGCCGCCGGCAGCGC
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Pred. No. 0.0045;
0; Mismatches 16
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US-10-767-701-4420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 13
US-10-767-701-4420
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4420, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated
TITLE OF INVENTION: Plants and Uses Thereof For Flant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 4420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
ORGANISM: Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 697
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              374
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                                                                                                                                                                                                                           254 CÓCCÓCCÓCCACCGÓGTÓCCCGCCACCCCTÓCCCAGCCACÓCCGCCGCCGCGCGGGGGTGCC 313
                                                                                                                                                                                                                                                                                100 TGCTGCGCAGCCACTACCGCGAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGC 159
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     CCAGCGCGTGGGTCCCCGCGTGGCCACGGGGCCCCCGGGCCTCCGGCCCGGCGGGGGGGA33
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                                                          CCCGAGGCCTTCACCACCAGCGTGCGCAGCTACCTGCCCAACACGGTGACCGACGCACTG 455
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RESULT 14
US-10-767-471-195/c
US-10-767-471-195/c
; Sequence 195, Application US/10767471
; GENERAL INFORMATION:
; APPLICANT: CARGILL, Michele et al.
; TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
; TITLE OF INVENTION: RHEUMATOLD ARTHRITIS, METHODS OF DETECTION AND USES THEREOF
; FILE REFERENCE: CL001505
; CURRENT APPLICATION NUMBER: US/10/767,471
; CURRENT FILING DATE: 2004-01-30
; NUMBER OF SEQ ID NOS: 50231
; NUMBER OF SEQ ID NOS: 50231
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SEQ ID NO 195
LENGTH: 14800
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ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                          5668 TGGCCTCGCCGATGGCCGGCCAGCTTCTCCGCAAGCACCCGCTCCGCCTCGGCCCGCCTGCC 5609
                                                                                                                                                                                                                                                                                5727 GCGCTCGTTCTCCGCCTTCTTCTTGAGCGCGATCTCCGCCTCCG-TCTTGAGCCGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5839 CCGATGCCTTGCGCAGCTGGGCCAGGCGCCTCCTCGATGTCAGCCTTGTGTTGCGCGGCCT 5780
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6139 GCCGTGCGGCCTCCTCGGCCGCCAGGCTCTTCTGCACGCGCTCCTCAGCCTCACGGC 6080
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548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607
                                                                                                                                                                                                                                                                                                                                                      488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGCCACGCTGCGCGCTCTTTGTGCTGGT 547
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACCTACCGCGAGGTGCT 127
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Search completed: March 1, 2004, 23:56:49 Job time: 60.9188 secs
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; ORGANISM: Homo sapiens
US-10-767-471-603
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US-10-767-471-603/c
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CURRENT FILING DATE: 2004-01-30
NUMBER OF SEQ ID NOS: 50231
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 603
LENGTH: 11409
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GENERAL INFORMATION:
APPLICANT: CARGILL, Michele et al.
TITLE OF INVENTION: GENETIC POLYMORPHISMS ASSOCIATED WITH
TITLE OF INVENTION: RHEUMATOID ARTHRITIS, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CL001505
                                                                                                                                                                                                1583 GTGCCCGCCGCTCAGCCTCCTCCCGCAGCTGTGCCACAGCCACGTGTTCCTCCTGC 1528
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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 1346.4
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4012
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18844.394 Million cell updates/sec
                                                       Match Length DB
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AY407351 Mus muscu
BM453198 AGENCOURT
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AUTHORS
                                                                                                                                                                                       SOURCE
ORGANISM
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AY407349
                                                                                                                                                         REFERENCE
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                                                               JOURNAL
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TITLE
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        Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A.,
Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A.,
Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B.,
Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J.,
Adams, M.D. and Cargill, M.
                                                                                              1 (bases 1 to 1826)
Clark,A.G., Glanowski,S., Nielson,R., Thomas,P., Kejariwal,A.,
Todd,M.A., Tanenbaum,D.M., Civello,D.R., Lu,F., Murphy,B.,
Terriera,S., Wang,G., Zheng,X.H., White,T.J., Sninsky,J.J.,
Adams,M.D. and Cargill,M.
Inferring nonneutral evolution from human-chimp-mouse orthologous
                                                                                                                                                                                                                                            Homo sapiens TERT gene, VIRTUAL TRANSCRIPT, partial sequence, genomic survey sequence.
                                                                                       gene trios
                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Clark,A.G., Glanowski,S., Nielson,R., Thomas,P., Kejariwal,A.,
Todd,M.A., Tanenbaum,D.M., Civello,D.R., Lu,F., Murphy,B.,
Ferriera,S., Wang,G., Zheng,X.H., White,T.J., Sninsky,J.J.,
Adams,M.D. and Cargill,M.
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Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                                                              genomic survey sequence
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Mus musculus TERT gene, VIRTUAL
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                                                                                                                                                                                                                                                                                                                                                                                                        1936 CCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGCCAGAACGT 1995
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    Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus. 1 (bases 1 to 1835)
Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A.,
Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B.,
Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J.,
Adams, M.D. and Cargill, M.
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Direct Submission
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Similarity 64.5%;
28; Conservative
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                                                                                                                                                                                                                                                                                                                TCCGCAG-AGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTTCAGCGTG 2054
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Location/Qualifiers
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/mol_type="genomic DNA"
/db_xref="taxqn:10090"
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                                       2156 GGCCCAGGACCCGCCCTGAGCTGTACTTTTGTCAAGGTGGATGTGACGGGCGCGTACGA 2215
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                                                                                                                                                                                                                                                                                                                                                                                                                            182 CTTCAAGAGCCACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGC 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              122 GTACTGCGTGCGTCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGC
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
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Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5', mRNA sequence.
BM453198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           High quality sequence stop: 646.
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Plate: LLAM12208 row: p column: 01
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CONA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tissue Procurement: ATCC
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                           GCGCATCAGGGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTC
CACGCTGCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCG
                                                                                                                                                        GCGCATCAGGGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTC 2575
                                                                                                                                                                                                              GAATGAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGT
                                                                                                                                                                                                                                                                                                                                                                      TCACCTGCAGGAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCT
                                                                                                                                                                                                                                                                                                                      TCACCTGCAGGAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCT 301
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="leiomyosarcoma"
/lab_host="NH10B (phage-resistant)"
/clone_lib="NH MGC_71"
/note="Organ: uterus; Vector: pCMV-SPORT6; Site_1: Not1;
Site_2: Sal1; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 2.1 kb. "
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db_xref="taxon:9606"
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Hest Local Similarity 98.2%; Pred. No. 8.6e-79; Matches 723; Conservative O. Minney 17.6%; Score 706; DB 12; Length 813;
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1 (bases 1 to 813)

Harrington,J.J., Sherf,B., Rundlett,S., Jackson,P.D., Perry,R., Cain,S., Leventhal,C., Thornton,M., Ramachandran,R., Whittington,J., Lerner,L., Costanzo,D., McElligott,K., Boozer,S., Whittington,J., Lerner,L., Costanzo,D., McElligott,K., Boozer,S., Whittington,J., Veloso,N., Klika,A., Hess,J., Cothren,K., Lo,K., Offenbacher,J., Danzig,J. and Ducar,M.

Creation of genome-wide protein expression libraries using random activation of gene expression
Nat. Biotechnol. 19 (5), 440-445 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: scain@athersys.com
High quality sequence stop: 533.
Location/Qualifiers
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Fax: 216 361 9596
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Atherays, Inc.
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RST17589 Athersys RAGE Library
BG198331
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                                                                                                                               /organism="Homo sapiens"

/mol_type="maxNa"
/db xref="taxon:9506"
/ceIl_line="HT1080"
/clone_lib="Athersys RAGE Library"
/clone_lib="Athersys RAGE Library"
/note="Gee 'Creation of Genome-wide Protein Expression',
Nature Biotechnology, in press. Note that even though the
cell type indicated is HT1080, since a random activation
method was used, these sequence tags are not necessarily
expressed in HT1080 under normal circumstances."
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                                                                                                                                                                                                                                       BU702370
851 bp mRNA linear UI-M-FIO-byx-f-12-0-UI.rl NIH_BMAP_FIO Mus musculus IMAGE:6400523 5', mRNA sequence.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
                                   Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                              NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 851)
                                                                                                                                                         Mus musculus
                                                                                                                                                                                                           BU702370.1 GI:23627105
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCTCTCAGGAGCAGAGGCCGCGTATCACCACGACAGAGCCCCGCGCCGCCGTCCTCTGCTTC 150
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                                                                                                                                                                        musculus (house mouse)
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                    CGCCTCACTTGGACCAAGCAAAAACCTTCCTCAGCACCCTGGTCCATGGCGTTCCTGAGT
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cDNA Library preparation: Dr. M. Bento Soares, University of IowacDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa DNA Sequencing by: Dr. M. Bento Soares, University of Iowa Clone Distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
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/tissue type="whole brain"
/dev_stage="embryo 12.5dpc"
/lab_host="DHIOB (TI phage resistant)"
/clone_lib="NIH_BMAp=FIO"
/c
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Local Similarity nes 638; Conserv 2683 CACCTCACCTCACCCACGCGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGT 2329 GCAAGGCCTTCAAGAGCCACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGT 2269 AGAACACGTACTGCGTGCGTCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCC 2328 1 AGCGCACGTACTGTATCCGCCAGTATGCAGTCGGTCCGGAGAGATAGCCAAGGCCAAGTCC 61 ACAAGTCCTTTAGGAGACAGGTCACCACCCTCTCTGACCTCCAGCCATACATGGGCCAGT AGAGCTCCTCCCTGAATGAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGT 2502 GCTCCATCCTCCACGCTGCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGT GTCACAGTGTCGTAAAGATTGGTGACAGGTGCTATACGCAGTGCCAGGGCATCCCCCAGG eccaceacecerecearcaeeecaaercaaerccaeceaereceaeeeaarcccecaee TTGCTGAGGTGCAGCGGGATGGGTTGCTTTTACGTTTTGTTGATGACTTTCTGTTGGTGA rrecesesarreseceseseseses recreates respectations and recesses reservoirs recreases GCTCCAGCCTATCCACCCTGCTCTGCAGTCTGTTTTCGGAGACATGGAGAACAAGCTGT TCCTTAAGCATCTGCAGGATTCAGATGCCAGTGCACTGAGGAACTCCGTTGTCATCGAGC TCGTGGCTCACCTGCAG-----GAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGC Conservative 12.5%; Score 500.2; DB 13; Pred. No. 4.1e-53; 0; Mismatches 206; Indels Length 851; <u>,,</u> 2742 240 180 2442 120 420 360 2562 60

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(bases 1 to 492)

Kim,N.S., Hahn,Y., Oh,J.H., Lee,J.Y., Ahn,H.Y., Chu,M.Y., Kim,M.R.,
Oh,K.J., Cheong,J.E., Sohn,H.Y., Kim,J.M., Park,H.S., Kim,S. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Email: yongsung@mail.kribb.re.kr
Plate: 99 row: E column: 07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Korea Research Institute of Bioscience & Biotechnology 52 Eoeun-dong Yuseong-gu, Daejeon 305-333, South Korea Tel: +82-42-860-4470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           K-EST0096335 S22SNU16nl Homo sapiens cDNA clone S22SNU16nl-99-E07
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Location/Qualifiers
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/GELLALING / GELLALING / GELLA
                                                                                                                                                                                                                                                       /cell_type="Lymphoblast-like"
/cell_line="SNU-16"
                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                         tissue_type="Ascites"
                                                                                                                                                                                                                                                                                                                                                                                        'clone="S22SNU16n1-99-E07"
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                                                                                                                                                                                                                                                                              Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.nih.gov

This clone is available royalty-free through LLNL; contact the

IMAGE Consortium (info@image.llnl.gov) for further information.

Insert Length: 2187 Std Error: 0.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 389)

NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                         Seq primer: -28m13 rev2 ET from Amersham High quality sequence stop: 385.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Tumor Gene Index Unpublished (1997)
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                                       /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:712562"
                                                                                               organism="Homo sapiens"
mol_type="mRNA"
                                                                                                                                                                                        ocation/Qualifiers
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Pred. No. 3.7e-46;
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Matches 387;
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Best Local Similarity
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                                                                          1 (bases 1 to 851)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
             Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey Green M.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                        Mus musculus
                                                                                                                                                                                                                                           BG917907.1 GI:14298383
                                                                                                                                                                                                                                                                        mRNA sequence.
                                                                                                                                                                                                                                                                                    BG917907 851 bp mRNA linear EST 05-JUN-2001
602820830F1 NCI_CGAP_Mam6 Mus musculus cDNA clone IMAGE:4949887 5',
                                                                                                                                                                                                        Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTG 360
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/lab_host="DH10B"
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Pred. No. 9.8e-39;
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REFERENCE AUTHORS TITLE

JOURNAL

CF531121
UI-M-FY0-cgp-m-21-0-UI.rl NIH_BMAP_FY0 Mus
IMAGE:30355988 5', mRNA sequence.

musculus cDNA clone

linear

EST 12-SEP-2003

RESULT 9 BG917907

DEFINITION

KEYWORDS VERSION ACCESSION

ORGANISM

뮍 Ş 밁 Ś 밁 Š 밁 Ś 밁 Ś В Ş 밁

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FEATURES
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Best Local Similarity 76.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2778 AACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGATGCCGGCCCAC 2831
                                                                                                                                                                                                                           458
                                                                                                                                                                                                                                                                                                                                      398
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 High quality sequence stop: 753.
Location/Qualifiers
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ATCCTGAAGGTCAAGAATCCAGGAATG 604
                                                ATCCTGAAAGCCAAGAACGCAGGTATG 3224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTGTCACAGCCTG 3017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGATGTGAACTTGCGGAAGACAGTGGTG
                                                                                                       AGGAAGAACCTCACATTCTTTCTGGGCATCATCTCCAGCCAAGCATCCTGCTGCTATGCT
                                                                                                                                                                                                                           CTGCTTCAGGCCTACAGGTTCCATGCATGTGTGATTCAGCTTCCCTTTGACCAGCGTGTT
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                                                                                                                                                                                                                                                                                                                                         TTTCTAGACTTGCAGGTGAACAGCCTCCAGACAGTCTGCATCAATATATACAAGATCTTC
                                                                                                                                                                                                                                                                                                                                                                                                TTTCTGGATTTGCAGGTGAACAGCCTCCAGACGTGTGCACCAACATCTACAAGATCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGGGAAGACCATGCGGAACAAGCTCCTGTCGGTCTTGCGGTTGAAGTGTCACGGTCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TACTCAGGTTATGCCCAGACCTCAATTAAGACGAGCCTCACCTTCCAGAGTGTCTTCAAA 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCGCGCGCTTCAAG 2957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCCTGGTCCATGGCGTTCCTGAGTATGGGTGCATGATAAACTTGCAGAAGACAGTGGTG 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGTGTGATGACTTTCTGTAGGTGACGCCTCACTTGGACCAAGCAAAAACCTTCCTCAGC 97
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/tissue_type="infiltrating ductal carcinoma"
/dev_stage="s months"
/lab_host="DH10B"
/clone_lib="NCI_CGAP_Mam6"
/note="Organ: mammary; Vector: pCMV-SPORT6; Site_1: SalI;
Site_2: NotI, Cloned unidirectionally. Primer: Oligo dT.
Library constructed by Life Technologies. Investigator
providing samples: Jeffrey Green, M.D., NIH"
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strain="FVB/N"
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clone="IMAGE:4949887"
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Best Local (
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Tissue Procurement: Dr. Jim Lin, University of Iowa
CDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Distribution information can be found at
http://genome.uiowa.edu/distribution/mousefl.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CF531121
CF531121.1 GI:34583085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Seq primer: pYX-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
ATCCCTGAAAGAGCTGGTGGCCAGGGTTGTGCAGAGACTCTGCGAGCGCAACGAGAGAAA
                                    This clone was contributed by the Brain Molecular Anatomy Project
                                                                                             CAGGCGGCTTGTGCAACCCGGGGACCCGAAGATCTACCGCACTTTGGTTTGCCCAATGCCT
                                                                                                                                                                                                                                            CTGGCGGCTGGTGCAGCGCGGGGACCCGGCGGCGTTTTCCGCGCGCTGGTCGCCCAGTGCCT
                                                                                                                                                                                                                                                                                          CAGCCGATACCGGGAGGTGTGGCCGCTGGCAACCTTTGTGCGGCGCCTGGGGGCCCGAGGG
                                                                                                                                                                                                                                                                                                                                    CAGCCACTACCGCGAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGG
                                                                                                                                                                                                                                                                                                                                                                                        CCCGGCCTTGAGCACAATGACCCGCGCTCCTCGTTGCCCCGCGGTGCGCTCTCTGCTGCG 122
                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 688)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /tissue_type="whole brain"
/dev stage="embryo 13.5,14.5,16.5,17.5dpc"
/lab_host="DH10B (TI phage resistant)"
/clone_lib="NHH_BMAP_FYO"
/note="Organ: Brain; Vector: pYX- Asc; Site_1: EcoR I;
Site_2: Not I; The library was constructed according
Bonaldo, Lennon and Soares, Genome Research, 6:79-806,
1996. Denatured RNA was size fractionated on a 1% agarcse
gel. First strand cDNA synthesis was primed with Oligo-dT
primer containing a Not I site. Double strand cDNA was
size selected according to mRNA size fraction, ligated
with EcoR I adaptor, digested with NotI and then cloned
directionally into pyX-Asc vector. The library tag
sequence located between the Not I site and the polyA tail
is AGCGAGACAC. This library was created for the University
Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the
Developing Mouse Nervous System', supported by National
Institute of Mental Health (NIMH), Hemin Chin, Ph.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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73.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 346.2; DB 1
Pred. No. 7.3e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches 155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 14; Length 688;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Distribution information can be found at
http://genome.uiowa.edu/distribution/mousefl.html
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NIH-MGC http://mgc.nci.nih.gov/.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Seq primer: pYX-5
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                       /clone="IMAGE:3035746"
/tlssue_type="whole brain"
/tlssue_type="whole brain"
/dev_stage="embryo 13 5,14.5,16.5,17.5dpc"
/lab_host="PH10B (TI phage resistant)"
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Developing Mouse Nervous System', supported by National
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                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 599)

Arakawa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hiramoto, K., Hori, F., Ishii, Y., Ito, M., Kawai, J., Konno, H., Kouda, M., Koya, S., Matsuyama, T., Miyazaki, A., Nomura, K., Ohno, M., Okazaki, Y., Okido, T., Saito, R., Sakai, C., Sakai, K., Sano, H., Sasaki, D., Shibata, K., Shinagawa, A., Shiraki, T., Sagabe, Y., Suzuki, H., Tagama, M., Tagawa, A., Takahashi, F., Takeda, Y., Tanaka, T., Toya, T., Muramatsu, M. and Hayashizaki, Y. RIKEN Mouse ESTS (Arakawa, T., et al. 2001)
            Contact: Yoshihide Hayashizaki
Laboratory for Genome Exploration Research Group, RIKEN Genomic
Sciences Center(GSC), Yoshama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Sushiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                      BB618671 RIKEN full-length enriched, cDNA clone 5730412M20 5', mRNA sequer
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Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) Rondo,S., Shinagawa,A., Saito,T., Kiyosawa,H., Yamanaka,I., Aizawa,K., Fukuda,S., Hara,A., Itoh,M., Kawai,J., Shibata,K. and
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URL:http://genome.gsc.riken.go.jp,
Carninci, P., Shibata, Y., Hayateu, N., Sugahara, Y., Shibata, K.,
Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y.
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new
genes. Genome Res. 10 (10), 1617-1630 (2000)
wagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E.,
Watahiki, M., Yoneda, Y., Ishikawa, T., Omawa, K., Tanaka, T.,
Matsura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A.
and Hayashizaki, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences. Mamm. Genome. 12, 673-677 (2001)
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CCGCTGGCAACCTTTGTGCGGCGCCTGGGGGCCGAGGGCAGGCGGCTTGTGCAACCCGGG
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                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone_lib="RIKEN full-length enriched, 8 days embryo"
/note="Site 1: Sall, Site 2: BamHI; cDNA library was
prepared and sequenced in Mouse Genome Encyclopedia
Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in
RIKEN, Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contributed to prepare mouse tissues. 1st strand cDNA was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /mol
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                             8.0%;
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                                                                                                                                                                                                                                                                                                                                                                                             Score 322; DB 1
Pred. No. 8e-31;
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                                                                                                                                                                                                                                                                                                                                                                                                                          DB 10; Length 599;
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SOURCE
ORGANISM
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AUTHORS
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BQ258274
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDNA Library Preparation: J. Baker (Stanford University)
CDNA Library Arrayed by: The I.M.A.G.E. CONSCRTIUM/LLNL
DNA Sequencing by: National Institutes of Health Intramural
Sequencing Center (NISC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 664)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BQ258274 664 bp mRNA linear EST 06-MAY-:
NISC kpl1g04.q3 Baker mouse embryo e7.5 Mus musculus cDNA clone
IMAGE:5409222, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                           Seq primer: Sp6 primer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BQ258274.1 GI:20459030
                                                                                                                                                                                                                                                                                                                                                                                                                                               Clone distribution: NCI-CGAP clone distribution information can ound through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGAGTGGGCGACGACCTGCTGGTCTACCTGCTGGCACACTGTGCTCTTTATCTTCTGG 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGGGTTGTGCAGAGACTCTGCGAGCGCAACGAGAGAAACGTGCTGGCTTTTGGCTTTTGAG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGCG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gene Index
                                                                                                                                                                                                                                                                                                                                                                                LLAM12043 row: N column:
/clone lib="Baker mouse embryo e7.5"
/note="Vector: pCS105; Site 1: NotI; Site 2: SalI; cDNA
made by oligo-dT priming. Directionally cloned into
SalI/NotI sites using the following 5' adaptor:
5'-TCGACCCACGGTCCG-3'. Size-selected for average insert
Size 1.8-1.9 kb. Library constructed by J. Baker (Stanford
                                                                                                                                 /clone="IMAGE:5409222"
/tissue_type="embryo, late gastrula"
/dev stage="embryo, 7.5 dpc"
/lab_host="XLL_Blue"
                                                                                                                                                                                                                                                                                              organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                   ocation/Qualifiers
                                                                                                                                                                                                                              db xref="taxon:10090"
                                                                                                                                                                                                                                                    strain="CD-1"
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                                                                                                                                                                                                                                                                                                                                                                                                                          llnl.gov
                                                                                                                                                                                                                                                                      type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST 06-MAY-2002
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Best Local S
                                                                                                                                                                                                                      1655 CGCAGAGCACCGTCTGCGTGAGGAGATCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGT 1714
                                                                                                                                                                                                                                                                                                          1595 GATGAGCGTGCGGGACTGCGCTTGGCTGCGCAGGAGCCCAGGGGTTGGCTGTGTTCCGGC 1654
                                                                                                                                                                                                                                                                                                                                                                                                 1535 CAAGAAGTTCATCTCCCTGGGGAAGCATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAA 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1355 CCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1295 GCACTGCCCGCTGCGAGCTGCGGTCACCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAGCC 1354
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1115 GCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTG
624 CAGGCTCTTCTTCTACCGTAAGAGTGTGTGGAGCAAGCTGC 664
                                                                                       564 ATACGTGGTACAGCTGCTTAGGTCATTCTTTTACATCACAGAGGAGCACATTCCAGAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          129
                                                                                                                                                                                                                                                                444 GATGAAAGTAGAGGATTGCCACTGGCTCCGCAGCAGCCCAGGGAAGGACCGTGTCCCCGC
                                                                                                                                                                                                                                                                                                                                                       384 AAAGAAGTTCATCTCGTTGGGGAAATACGGCAAGCTATCACTGCAGGAACTGATGTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                              324 GGTGGTGTCTGCTAGTCTCTGGGGTACCAGGCACAATGAGCGCCGCCTTCTTTAAGAACTT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   264 GCTCCGCCTGCACAGCAGTCCCTGGCAGGTATATGGTTTTCTTCGGGCCTGTCTCTGCAA 323
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Similarity 68.3%;
                                CAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAGCAAGTTGC 1815
                                                                                                                                 GTACGTCGTCGAGCTGCTCAGGTCTTTCTTTTATGTCACGGAGACCACGTTTCAAAAGAA 1774
                                                                                                                                                                           TGCAGAGCACCGTCTGAGGGAGAGGATCCTGGCTACGTTCCTGTTCTGGCTGATGGACAC
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; Pred. No. 2.6e-30;
0; Mismatches 177; Indels 45;
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REFERENCE
AUTHORS
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RESULT 14 BB651920

VERSION KEYWORDS SOURCE ORGANISM ACCESSION DEFINITION Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 614)

Arakawa, T., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hiramoto, K., Hori, F., Ishii, Y., Ito, M., Kawai, J., Konno, H., Kouda, M., Koya, S., Matsuama, T., Miyazaki, A., Nomura, K., Ohno, M., Okazaki, Y., Okido, T., Saito, R., Sakai, C., Sakai, K., Sano, H., Sasaki, C., Shibata, K., Shinagawa, A., Shirakk, T., Sogabe, Y., Suzuki, H., Tagami, M., Tagawa, A., Takahashi, F., BB651920 RIKEN full-length enriched, Mus musculus BB651920.1 Mus musculus (house mouse) clone C330020G14 5', mRNA sequence. GI:16486058 mRNA linear EST 26-OCT-i, ES cells Mus musculus cDNA EST 26-OCT-2001

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                                                                                                                                                                                                                                 Matches 378;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                Local
69 CGCGCTCCCCGAGCCGAGCCGTGCGCGCGCGAGCCACCTACCGCGAGGTGCTG 128
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Computer-based methods for the mouse full-length cDNA
Computer-based methods for the mouse full-length cDNA
encyclopedia: real-time sequence clustering for construction of a
nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001)
Kondo, S., Shinagawa, A., Saito, T., Kiyosawa, H., Yamanaka, I.,
Alzawa, K., Fukuda, S., Hara, A., Itoh, M., Kawai, J., Shibata, K. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: genome-res@gsc.riken.go.jp,
URL:http://genome.gsc.riken.go.jp/
Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K.,
Itoh,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new
genes. Genome Res. 10 (10), 1617-1630 (2000)
wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E.,
Watahiki,M., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T.,
Matsuura,S., Kawai,J., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A.
and Hayashizaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences. Mamm. Genome. 12, 673-677 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000)
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The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Takeda,Y., Tanaka,T., Toya,T., Muramatsu,M. and Hayashizaki,Y. RIKEN Mouse ESTs (Arakawa,T., et al. 2001)
                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Please visit our web site (http://genome.gsc.riken.go.jp) for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Yoshihide Hayashizaki
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                                                                                                                                                              CACCCTTGCATCTTGGTTCCCCGCACGTGGGAGGCCCATCCCGGCCTTGAGCACAATGACC 120
                                                                                                                                                                                                                              Conservative
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                                                                                                                                                                                                                                                                                                                                                                        /clone lib="RIKEN full-length enriched, ES cells"
/note="Site 1: XhoI; Site 2: BamHI; cDNA library was
prepared and sequenced in Mouse Genome Encyclopedia
Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in
RIKEN. Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contributed to prepare mouse tissues. 1st strand cDNA was primed with a primer [5' GAGAGAGAGAAGCATCCTTTTTTTTTTTTTTTVN 3'], cDNA was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         organism="Mus musculus"
                                                                                                                                                                                                                                                     7.2%;
74.7%;
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ll_type="ES cells"
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                                                                                                                                                                                                                              0; Mismatchès 127; Indels
                                                                                                                                                                                                                                                     Score 290.8; DB 1
Pred. No. 6:2e-27;
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                                                                                                                                                                                                                                                                                    DB 10;
                                                                                                                                                                                                                                                                                    Length 614;
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MEDLINE
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                                                                                                                                                                                                                                                         PUBMED
                                                                                                                                                                                                                                                                                                 Adams, M.D., Kerlavage, A.R., Fleischmann, R.D., Fuldner, R.A.,
Bult, C.J., Lee, N.H., Kirkness, E.F., Weinstock, K.G., Gocayne, J.D.,
White, O., Sutton, G., Blake, J.A., Brandon, R.C., Man-Mai, C.,
Clayton, R.A., Cline, T.R., Cotton, M.D., Earle-Hughes, J., Fine, L.D.,
Fitzgerald, L.M., Fitzhugh, W.M., Fritchman, J.L., Geoghagen, N.S.,
Glodek, A., Gnehm, C.L., Hanna, M.C., Hedblom, E., Hinkle, P.S. Jr.,
Kelley, J.M., Kelley, J.C., Liu, L.-I., Marmaros, S.M., Merrick, J.M.,
Moreno-Palanques, R.F., McDonald, L.A., Nguyen, D.T., Pelligrino, S.M.,
Phillips, C.A., Ryder, S.E., Scott, J.L., Saudek, D.M., Shirley, R.,
Small, K.V., Spriggs, T.A., Utterback, T.R., Weidman, J.F., Li, Y.,
Bednarik, D.P., Cao, L., Cepeda, M.A., Coleman, T.A., Collins, F.J.,
Dinke, D., Feng, D.-F., Ferrie, A., Fischer, C., Hastings, G.A.,
He, W.W., Hu, J.S., Greene, J.M., Gruber, J., Hudson, P., Kim, A.K.,
Kozak, D.L., Kunsch, C., Hungjun, J., Li, H., Meissner, P. S., Olsen, H.,
Kozak, D.L., Kunsch, C., Hungjun, J., Li, H., Meissner, P. S., Olsen, H.,
Kozak, D.L., Kunsch, C., Wing, J., Xu, C., Yu, G.L., Ruben, S.M.,
Dillion, P.J., Fannon, M.R., Rosen, C.A., Haseltine, W.A., Fields, C.,
Fraser, C.M. and Venter, J.C.
Initial assessment of human gene diversity and expression patterns
based upon 83 million nucleotides of cDNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           249
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                489 CGCGT-GGGCGACGACGTGCTGGTTC 513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481 TTGCCCAACACTGTTATTGAGACCCTGCGTGTCAGTGGTGCATGGATGCTACTGTTGAGC 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 AGGGTTGTGCAGAGACTCTGCGAGCGCAACGAGAGAAACGTGCTGGCTTTTGGCTTTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               309 CGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGCG 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 CCGCTGGCAACCTTTGTGCGGCGCCTGGGGCCGAGGGCAGGCGGCTTGTGCAACCCGGG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 303)
   For clone availability, additional sequence and expression
                              Fax: 3018699423
Email: arkerlav@tigr.org
                                                                                                                                9712 Medical Center Drive, Rockville,
                                                                                                                                                    The Institute for Genomic Research
                                                                                                                                                                                     Bioinformatics
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EST12462 Uterus tumor I Homo sapiens cDNA 5' end, mRNA sequence.
                                                                                                                                                                                                                       Contact: Kerlavage, AR
                                                                                                                                                                                                                                                         7566098
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Search completed: March 1, 2004, 03:42:23 Job time : 6362.45 secs
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 7.2%; Score 287.4; DB 9; Length 303; Best Local Similarity 98.7%; Pred. No. 2e-26; Matches 299; Conservative 0; Mismatches 3; Indels 1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                  3471 CCT 3473
                                                                                                                                                                                                                       3412 GAGCTGTCTGGGAGCTGCCATCCTTCCCACCTTGCTCTGCCT-GGGGAAGCGCTGGGGGG 3470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3172 CTGACACGGCCTCCCTCTGCTACTCCATCCTGAAAGCCCAAGAACGCAGGTATGTGCAGGT 3231
                                                                                                                                                                                                                                                                                                                          3352 TGTCAGGCTCGTCTGCCCGCCCTCTCGTGGGGTGAGCAGCACCACCTGATGGAAGGGACAG 3411
                                                                                                                                                                                                                                                                                                                                                                                                                              3292 AATCTGGGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAGTGGTTTAACCCCAACCAC 3351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3232 GCCTGGCCTCAGTGGCAGCAGTGCCTGCCTGCTGTTTAGTGTGTCAGGAGACTGAGTG 3291
                                                                                              301 CCT 303
                                                                                                                                                                                          241 GAGCTGTCTGGGAGCTGCCATNCTTCCCAACTTGCTCTGCCTGGGGGAAGCGCTGGGGGG 300
                                                                                                                                                                                                                                                                                              181 TGTCAGGCTCGTCTGCCCGCCCTCTCGTGGGGTGAGCAGCAGCACCTNATGGAAGGGACAG 240
                                                                                                                                                                                                                                                                                                                                                                                            121 AATCTGGGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAGTGGTTTAACCCAACCAC 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 GCCTGGCCTCAGTGGCAGCAGTGCCTGCCTGGTGTTAGTGTGTCAGGAGACTGAGTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     information related to this EST, please check the TIGR Human Gene Index (http://www.tigr.org/tdb/hgi/hgi.html)
Seq primer: M13 Reverse.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
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/note="Organ: uterus; Vector: pBluescript SK-; Site_1:
EcoRI; Site_2: XhoI"
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Minimum DB seg length: 0
Maximum DB seg length: 200000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Perfect score:
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            10
121
121
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16548.779 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	80	ID	Description
L .	3306.6	82.4	4015	ن ا	US-09-733-294A-3	Sequence 3, Appli
N	3306.6		4015	9	US-09-990-080-1	Sequence 1, Appli
ω	3306.6		4015	ø	US-09-843-676-224	Sequence 224, App
4.	3306.6		4015	9	US-09-953-052-1	
U)	3306.6		4015	14	US-10-053-758-224	æ
9	3306.6		4015	14	US-10-208-243-1	Sequence 1, Appli
7	3306.6		4015	14	US-10-054-295-224	
œ	3306.6	82.4	4015	14	US-10-054-611-224	Sequence 224, App
9	3306.6		4015	14	US-10-105-963-1	,
10	3306.6		4015	14	US-10-044-692-1	,
11	3306.6		4015	14	US-10-044-539-1	Sequence 1, Appli
12	3304.6		4027	15	US-10-385-882-1	,
13	3161.4		3396	တ	US-09-749-728B-32	32 ,
14	3159.8		4029	ø	US-09-843-676-173	173,
15	3159.8		4029	10	. US-09-438-486-173	Sequence 173, App
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442	2 2 2 2 2 2 2 2 3 2 3 3 4 4 5 6 7 8 8 9 0 0 4	22222222222222222222222222222222222222	16 17 18 19 20
1236.8 1236.8 1236.8 873 519	1276.8 1276.8 1276.8 1276.8 1236.8 1236.8	11155222 12222 133222 133222 133222 133222 133222 133222 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13322 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 1322 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 1322 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 13222 1322 1222 13222 13222 13222 13222 13222 1322 1322 1322 1322 1322 1322 1	3159.8 3159.8 3159.8 3158.4 3158.4
		33333333333333333333333333333333333333	
2171 2171 2171 873 519	51552 2176 2176 1314 1311 1311 2171 2171 2171	3855 3855 1554 42866 42866 4444 1444 1444 1444 1444 1444 1444 1	4029 4029 4029 3453 13766
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Sequence 100, App Sequence 100, App Sequence 100, App Sequence 1, Appli Sequence 2, Appli	1000		Sequence 173, App Sequence 173, App Sequence 173, App Sequence 1, Appli Sequence 1, Appli Sequence 6, Appli

ALIGNMENTS

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GENERAL INFORMATION:

APPLICANT: Brett P. Monia
APPLICANT: William Gaarde
APPLICANT: Susan M. Freier
APPLICANT: Susan M. Freier
APPLICANT: Edward V. Wancewicz
TITLE OF INVENTION. ANTISENSE MODULATION OF TERT EXPRESSION
FILE REFERENCE: ISPH-0527;
CURRENT APPLICATION NUMBER: US/09/733,294A
CURRENT FILING DATE: 2000-12-07
PRIOR APPLICATION NUMBER: 09/572,423
PRIOR APPLICATION SUMBER: 09/572,423
PRIOR FILING DATE: 2000-05-16
NUMBER OF SEG ID NOS: 108
SEQ ID NO 3
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US-09-733-294A-3
Sequence 3, Application US/09733294A
; Patent No. US20020045588A1
                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-733-294A-3
                                                                                                                                                                                                                                                                                                   Query Match 82.4%; Score 3306.6; DB 9; Length 4015; Best Local Similarity 89.9%; Pred. No. 0; Matches 3618; Conservative 0; Mismatches 359; Indels 46; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE: CDS
LOCATION: (56)...(3454)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
ORGANISM: Homo sapiens
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128 GCCGCTGGCCACGTTCGTGCGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGCAGCGCGG 187
                                                          61 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT 120
                                                                                                                     68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT 127
                                                                                                                                                                                   1 GCAGCGCTGCGTCCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATGCC 60
                                                                                                                                                                                                                                              8 GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATGCC 67
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2288 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCA
2228 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGTGCG
2168 GCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGGGGGG
2108 CCTGGACGATATTCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC
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1988 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT
1928 CTTCATCCCCAAGCCTGACGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC
1868 GAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC
1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG
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1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA
1448 CGGCTTCGTGCGGGCCTGCCTGGCGCCGCCTGGTGCCCCCAGGCCTCTGGGGCTCCAGGCAGCCTGCTGCGCGCTGCCTGC
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                                         GCTCGTCTGCCCGCCCTCTCGTGGGGTGAGCAGCAGCACCTGATGGAAGGGAACAGGAGCTG 3417
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                                                                                     GACTOGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCA 3360
                                                                                                                               GGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAGTGGTTTAACCCAACCACTGTCAG 3357
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US-09-990-080-1
; Sequence 1, Application US/09990080
; Patent No. US20020102686A1
; GENERAL INFORMATION:
US-09-990-080-1
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                                                                                                                                                                 SEQ ID NO :
                                                                                                                                                                                           APPLICANT: Morin, Gregg B.
APPLICANT: Morin, Gregg B.
APPLICANT: Geron Corporation
TITLE OF INVENTION: Human Telomerase Catalytic Subunit Variants
FILE REFERENCE: 018/258C
CURRENT APPLICATION NUMBER: US/09/990,080
CURRENT FILING DATE: 1998-08-03
PRIOR APPLICATION NUMBER: US 09/052,864
PRIOR PILING DATE: 1998-03-31
NUMBER OF SEQ ID NOS: 21
                                                                                                                                                                                  SOFTWARE: PatentIn Ver. 2.0
                                                                                                                     LENGTH: 40
TYPE: DNA
             NAME/KEY: CDS
LOCATION: (56)..(3454)
OTHER INFORMATION: human telomerase reverse transcriptase (hTRT) cDNA
                                                                               ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4013
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Query Match 82.4%; Best Local Similarity 89.9%; Matches 3618; Conservative

Score 3306.6; Pred. No. 0; 0; Mismatches

DB 9; 359;

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CCACGCGGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCTTGTCC 1020	CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	1928 1921 1921	28 GAGGCGCGGGGGGAGTGCCAAGCCGAAGTCTGCCCGTTGCCCAAGAGGCCCCAAGAGGCGTGGCGC 787	1681 C 1748 T 1741 T	CTGCGCGCTCTTGTGCTGGT 540 GTACCAGCTCGGCGCTGCCAC 607 GTACCAGCTCGGCGCTGCCAC 600 GTACCAGCTCGGCGCTGCCAC 600 GTACCAGCTCGGCGCTGCCAC 600 GTACCAGCTCGGCGCTGCCAC 600 GTACCAGCTCGGCGCTGCCAC 600 GTACCAGCTCGGCGCTGCCAC 600 GTACCAGCTCGGCGCTGCCAC 600	28 CCTGCCCAACACGGTGACGCACTGCGGGGGGGGGGGGGG		ACGGCCGCCCCCCCCCCCCCCCTCCTTCCGCCAAGGTGTCCTGCCTTGAAGGAGCTGGTGGC 307	121 GCCCCAGGGCTTCGTGCGCGCCTGGGGCCCCAGGGCTGGGGCTGGTGCAGGCGCGG 180 188 GGACCCGGCGGCTTTCCGCGCGCCTGGGGCCCAGTGCTGGCGCTGGGGACGC 247 188 GGACCCGGGGGTTTCCGCGCGCTGGTGGCCCTGGTGCCCTGGGACGC 247	Tracet ctracted accertage and ctracet coccede accertage for the fill of the fi
CTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCTGTGCGGGCCCAGGACCC		TTCATCCCAAGCAGAAAAAAAAGAGGGCCGAGCGTCTCAACTCGAGGGTGAAGGCACTGTTTCAACCTCGAGGGTGAAGGCACTGTTTCAACCTCGAGGGTGAAGGCACTGTTTCAACCTCGAGGGTGAAGAAAAAAGAGGGCCGACTGAGCCTCCAAGGTCAAGAAAAAAGAGGGCCGACTGTTTCAACCTCGAGGAGAGAAAAAAGAGGGCCGACGGAGCCAAGGCTCTCAACCTCGAGGGCAAGGCAAGGCACTGTTTAAACAACGAGGGTCAAGGCAAGGCAAGGCAAGGCAAGGCACTGTTTAAACAACGAGGGTCAAGGCAAGGCAAGGCAAGGCACTGTTTAAACAACAGAGAGAG	CARGTTECAAAGCATTEGAATCAGACARCCACTTEGAAGACGGTGCAGCTGCCGGAGCTGTC		AGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 	AACGAACGCCGCTTCCTCAGGAACACCAAAAAGTCAATCTCCCCTGGGGAAGCATGCCAA AACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCCTGGGGAAGCATGCCAA AACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCCTGGGGAAGCATGCCAA CTCTCGCTGCAGGAGCTGACGTGAAAGAAGATGAGCGTGCGGAACTGCCTTGGCTTGGCTAG	ACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCCTGGCAGGTGTA ACAGCTTCGTGCGGGCTGGCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA ACAGCTTCGTGCGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA ACAGCTTCGTGCGGCCTGCTGCCCTGCGCCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA ACAGCTCCTGCGCTGCTGCCTGCCAACACACACACTCTCCAGGCCTCTGGGCAACATCCCAA	GCCGGTGTCTGTGCCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGAGAGA	TGCCCTACGGGTACTGGCAAATGCGGCCCTGTTTCTGGAGCTGCTTGGAAACCACGCAGCTGCCCAAGCTGCGGTCACCCCAGC	ACCATCTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGGTTGCCCCGCCT

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ADDRESSE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, 8th Floor CITY: San Francisco	CTCAGTGGCAGCAGTGCCTGCTGGTGTTAGTGTGTCAGGAGACTGAGTGAATCTG 3297	3238 CC
NTION: No. US20020164786Alel Telon UENCES: 225 E ADDRESS:	CTACTCCATCCTGAAAGCCAAGAACGCAGGTATGTGCAGGTGCCTGG 3237	3188 CTG
Chapman, Karen B. Chapman, Karen B. Morin, Gregg B. Harley, Calvin	TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCT 3187	3128 TCAGO
ATIO ATIO Li	CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCA 3127	3068 CAA 3061 CAA
RESULT 3 US-09-843-676-224 Sequence 224, Application US/09843676	TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 3067	3008 TCA 3001 TCA
UY 3990 AAA 3992 Db 4013 AAA 4015	CGGCTTCAAGGCTGGGAAGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG 3007	2948 CGG 2941 CGG
3953 ATTG	CAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCG 2947	2888 GCA 2881 GCA
3870 AAGSTGTGCCTGTACACAGGCGAGGACCCTGCACTGGATGGGGGTCCCTGTGGGTCAA	CCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCTGGAGGT 2887	2828 GC
3810 THOTHERSHIPSTROMEN ACCUMAGNAGGACGTGGGAATTTGGAGTGACCA	GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 2827	2768 GACA 2761 GACA
3/50 CHGAGATTCAGCCATCTCGAACCTGCGGTCCTGACTTAACTTTCTGTTC	TICCTCAGGACCCTGGICCGAGGIGTCCCTGAGIATGGCTGGCGTGGTGAACTTGCGGAA 2767	2708 CTTCCT 2701 CTTCCT
3690 CCAGTCAC	CTCCTGCGTTTGGTGGATTGTTCTTGTTGGTGACACCTCACCTCACCCCACGCGAAAAC 2707	2648 GC - 2641 GC
3630 CCCTCTCA 3661 GAGTGTCC	CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT 2647	2588 CA 2581 CA
3575 3601	CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTG 2587	2528 Qr 2521 Qr
3515 GCCTCTCC 	CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGGG 2527	2468 CA 2461 CA
3455 GEGARACCGCTGGGGGCCCTGGTCTCCCCTGTTTGCCCCATGGTGGGATTTTGGGGGGCCTGGGTGTCTACGTCCCAGGGAGGG	GACCAGCCCGAGGGGATGCCGTCGTCGAGCAGAGCTCCTCCCTGAATGAGGCCAG 2467	2408 GA 2401 GA
3418 TOTGGAAGCTPCCATCCTTCCTCTT	CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 2407	2348 CGT 2341 CGT
3358 GCTGGTCTGCCGGCCTTTCGTGGGGTGAGGAGCACCTGATGGAAGGAA	CGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCA 2347	2288 TO
3298 GECTTAGEGETETTACCCCTTTTCGCATCAGAGGTGGTTTAGCCCAGCCACCACTGTCAG	GGACAGGCTCACGGAGGTCATCGCCAGCATCAAACCCCCAGAACACGTACTGCGTGCG	2228 GC 2221 GC
3241 CGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCAAGCT		2161 60

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FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
ATTORNEY/AGENT INFORMATION:
NAME: Apple, Randolph T.
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002930US
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
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MEDIUM TYPE: Floppy disk
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APPLICATION NUMBER: US/09/843,676
FILING DATE: 26-Apr-2001
CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE DESCRIPTION: SEQ ID NO: 224:
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NAME/KEY: CDS
LOCATION: 56..3454
OTHER INFORMATION: /product= "hTRT"
/note= "human telomerase reverse
transcriptase (hTRT) catalytic protein
                                         CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGGCGGAAGAACGTGCTGGCCTTCGGCTTCGC 367
                    CCGAGTGCTGCAGAGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC
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STRANDEDNESS: single
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
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FILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
                                                                                         TOPOLOGY:
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TELEFAX: (415) 576-0300
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89.9%;
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Pred. No. 0;
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                                       CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCAGCAGCCCCCTGGCAGGTGTA 1440
                                                                                                                                          AGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGAGGA
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                                                                      CACAGACCCCCGTCGCCTGCTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTGTA 1447
                                                                                                                                                                                GTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTCACCCCAGC
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8	g VQ	Db Qy	D Qy	d dd	dd Qy	9d 83	B 8	g &	D 99	B 8	Qy Db	망왕	D Qy	gg Vy	B 8	D Qy	B &	סט
2528 CAAGTCCTACGTCCAGGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTCTCTC 2587	2468 CAGIGGCCICTICGACGICTICCIACGCITCAIGIGCACCACCACGCCGIGGGCAICAGGG 2527	2408 GACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAG 2467	2348 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTGACCTGCAGGÀ 2407 	2288 TCGGTATGCCGTGGTCCAGAAAGGCCGCCCATGGGCACGTCCGCAAAGACCTTCAAGAGCCA 2347	2228 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGTGCG	2168 GCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGCGTACGACACCATCCCCA 2227	2108 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGGCCCAGGACCC 2167	2048 CAGCGTGCTCAACTACGAGCGGGGCGCGGGCCCCCGGGCCTCTGGGGCGCCTCTGTGCTGGG 2107	1988 CAGAACGTTCCGCAGAGAAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 2047 	1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987	1868 GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCCAGGCCCCTGCTGAGACGTCCAGACTCCG 1927	1808 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867 	1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	1688 CAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGTCTTTCTT	1628 GAGCCCAGGGGTTGGCTGTGTTCCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687	1568 GCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCCTGCGCAG 1627	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567 	
B &) B &	D 4	S B 8	2 dg	5 B &	S & 8	, p. &	D &	;	S B 8	당 당 당) B (5	}	D	D	5 B &	S B :	OV Db
35/5 CITGIE-MARK-CHAGG	515 GCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	B1 GAGCAGACACCAGCCCTGTCACGCCGGGCTCTACGTCCCAGGGAGGG	21	61 GCTGAGTCGAAGCCAACCCGGGAACGACGACTGCCCTGGAGGCCGCAGCCAACCCGGC	OI GACTICGACACCGTGTCACCTACGTGCACCACACACACACACACA	328 CCCCARGINGCARGINGCCIGCCIGCTGCIARGIGIGICACRARGICARGINARICIG 327/	CTGCTACTCCATCCTGAAAGCCAAGAAGAAGTATGTGAAGTGCCTGCTACTCCATCCTGAAAGCCAAGAAAGATGTCTCTGCTACTCCTGAAAGCCAAGAAAGCAGGAATGTCGCTGGGGGGCCAAGGGCGCCGCCTGCTACTCCAACACCCAAGAAAGCCAAGAAAGGCAGGGATGTCGCTGGGGGGCCAAGGGCGCCGC	TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTGACACGGCCTCCCT	CANGAICCICCIGCIGEAGGCGIACAGGIIICACGCAIGIGIGIGIGIGIGIGIGIG	TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGTGTGCACCAACATCTA TCACAGCCTGTTTCTGGATTTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA TCACAGCCTGTTTCTGGATTTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA TCACAGCCTGTTTCTGGATTTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA TCACAGCCTGTTTCTGGATTTTGCAGGTGAACAGCCTCCAGACGGTGTGCACACATCTA TCACAGCCTGTTTCTGGATTTTGCAGGTGAACAGCCTCCAGACGTGTGAACACATCTA TCACAGCCTGTTTCTGGATTTTGCAGGTGAACAGCCTCCAGACGTGTGAACACATCTA TCACAGCCTGTTTCTGGATTTTGCAGGTGAACAGCCTCCAGACGTGTGAACATCTAGACATCTAGAGAGAG	CGSCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTGCGCTCTAAGTGCTTCAAGTCTTTGGGGTCTTTGCGGCTGAAGTGCGGCTTCAAGTGCTTCAAGTCTTTTGAGGTCTTTGCGGCTAAAGTG	BI GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCG	GCCGGCCCACGGCCTATTCCCCTGGTGCGGCTGCTTGCTT	88 GACAGIGGIGAACITICCCIGIRGAAGACGAGGCCCIGGGIGGCACGGCTTTIGITICAGAT 61 GACAGIGGIGAACITICCCIGITAGAAGACGAGGCCCIGGGIGGCACGGCTTTIGITICAGAT 61 GACAGIGGIGAACITICCCIGITAGAAGACGAGGCCCIGGGCACGGCTTTIGITICAGAT	700 CIICCICASSACCIIGGICCAASIGICCCIIGAAGAAIGSCIIGCGIGGIGGAACIIICCGAAA 701 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTTGCGGAA 701 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTTGCGGAA	GUICUISCUI I SGI GANIGATITUTI GI INCACCUI CACCUL CACCULACULANAAC GUICUISCUI IIIIIIIIIIIIIIIIIIIIIIIIIIIIII		2521 CAAGTCCTACGTCCAGTGCCAGGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTG 2580 2588 CAGCCTGTGCTACGGCGACATGGAGAGAACAAGCTGTTTGCGGGGGAATTCGGGGGGACGGGCT 2647

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US-09-953-052-1
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Patent No. US20020173476A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-LOS/MS-DOS

SOPTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
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Morin, Gregg B.
Harley, Calyin B.
Andrews, William H.
TITLE OF INVENTION: Antisense Compositions for Detecting and
                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/09/953,052
FILING DATE: 14-Sep-2001
CLASSIFICATION: -Unknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
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     APPLICATION NUMBER: US 08/854,050 FILING DATE: 09-MAY-1997 APPLICATION NUMBER: US 08/911,312
                                                                         APPLICATION NUMBER: US 08/851,843 FILING DATE: 06-MAY-1997
                                                                                                                     APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
                                                                                                                                                                                                                   APPLICATION NUMBER: 09/052,919
FILING DATE: <Unknown>
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Nakamura, Toru
Chapman, Karen B.
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                   301
421
                                                                                                                                                                                                                        368 GCTGCTGGACGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA 427
                                                                                                                                                                                                                                                                                                                 308
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      128 GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 187
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGACCCGGCGCCTTTCCGCGCGCCCTGGTGGCCCAGTGCCTGGTGTGCCCTGGGACGC
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LOCATION: 56..3454
OTHER INFORMATION:
                                                                            GCTGCTGGACGGGGCCCGCGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGCAGCTA
                                                                                                                                                                                                                                                                   CCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC
                                                                                                                                                                                                                                                                                                    CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGGC 367
                                                                                                                                                                                                                                                                                                                                                            GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCCTGGCCCCGGGCCACCCCCGCGATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Parent, Annette S.
REGISTRATION NUMBER: 42,058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 015389-003600US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: WO PCT/US97/17885 FILING DATE: 01-OCT-1997
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FILING DATE: 19-NOV-1997
APPLICATION NUMBER: WO PCT/US97/17618
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 4015 base pairs
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Pred. No. 0;
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1448 CGGCTTCGTGCGGGCCTGCCCGGCTGGTGCCCCCAGGCCTCTGGGGCTCCAGGCA	1328 AGCCGGTGTCTGTGCCCGGGAAAAGCCCCAAGGACTTCTGTGGCCGCCCGAAGAAGAAAAA 1387	6 G G G G G G G G G G G G G G G G G G G	0 0 1	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087	908 CACCTCTTGGAGGGTCCGCTCTGGCACGGCCACCCATCCGTGGGCCACCCATCCGTGGGCCACCCATCCGTGGGCCACCCATCCGTGGGCCACCCATCCGTGGGCCACCCATCCGTGGGCCACCCAC	1	728 GAGGCGCGGGGGGGAGTGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGCGTGGCGC 787	661 CTGGAACCATAGGGGAGGCCGGGGTCCCCCTGGGCCAGCCCCGGGTGCGAG 720	CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCTGCGCGCTCTTTGTGCTGGT 5 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGGCCGCCGCTGTACCAGGTCGGCGCTGCCAC 6
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2528 CAAGICCTACGTICCAGTGCCAGGGGATCCCGCAGGCTCCATCCTCTCCAGGCTGCTCTG 2587 2521 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGCTCCATCCTCTCCAGGCTGCTCTG 2580 2588 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGACGGGCT 2647	ol gacchdecectrgaggarigecgreerearegageagagerecreergaargageeag		2161 ĠĊĊĠĊĊŢĠĂĠĊŢĠŢĂĊŢŢŢĠŢĊĀĀĠĠĠĠĠĀŢĠŢĠĀĊĠĠĠĠĊĠĊĠŢĀĊĠĀĊĊĀŢĊĊĊĊĀ 2220 2228 GGĀCĀGGŢŢĀCGGĀGGŢCĀŢCGCCĀGCĀŢCĀŢCĀŢĞĀCĠĠĀĊĀŢĊĊĊĊĀŢĊĊĊĊĊĀ	2108 CCTGGACGATATCCACACGGCCTGGCGCACCTTCGTGCTGCTGCTGCGGGCCCAGGACCC 2167	B1 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 81 CAGACGTGCTCAACTACGAGCGGGCGCGCGCGCCCCGGGCCTCCTGGGCACTCTGTGCTGGG 48 CAGCGTGCTCAACTACGAGCGGGCGCGCGCCCCGGGCCTCCTGGGGCGCCTCTGTGCTGGG	1861 GGAAGCAGAGGTCAGGCAGCCATCGGGAAGCCAGGCCCGGCCTGCTGACGTCCAGACTCCG 1920 1928 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987	08 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC	81 48 41	1628 GAGGCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687

	2708 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGGTGAACTTCCGGAA 2767
RESULT 5 US-10-053-758-224 Sequence 224, Application US/1005; Publication No. US20030032075A1 GENERAL INFORMATION: APPLICANT: Cech, Thomas R. Lingmer, Joachit, Nakamura, Toru (Chapman, Karen I Morin, Greegs B. Harley, Calvin ITILE OF INVENTION: No. US: NUMBER OF SEQUENCES: 225 CORRESPONDENCE ADDRESS: ADDRESSE: Townsend at STREET: Two Embarcades CITY: San Francisco STATE: California COUNTRY: United States COUNTRY: United States COUNTRY: United States COUNTRY: United States COUNTRY: DATE: Floppy di COMPUTER READABLE FORM: MEDIUM TYPE: Floppy di COMPUTER NEALTING SYSTEM: PC: OPPLICATION NUMBER: US FILING DATE: 18-Jan-20 CHASSIFICATION NUMBER: US FILING DATE: 05-MAY-15 APPLICATION NUMBER: US FILING DATE: 05-MAY-15 APPLICATION NUMBER: US FILING DATE: 05-MAY-15 APPLICATION NUMBER: US FILING DATE: 18-APR-15 APPLICATION NUMBER: US FILING DATE: 25-APR-15 APPLICATION NUMBER: US FILING DATE: 25-APR-15 APPLICATION NUMBER: US FILING DATE: 18-APR-15 APPLICATION NUMBER: US FILING DATE: 25-APR-15 APPLICATION NUMBER: US FILING DATE: 36-MAY-15 APPLICATION NUMBER: US FILING DATE: 36-MAY-15 APPLICATION NUMBER: US FILING DATE: 37-6-07 TELEPAX: (415) 576-03 INFORMATION SOR SEQ ID NO: 224: SEQUENCE CHARACTERISTICS: LENGTH: 4015 base paid	Db 3780 CCCAGATTCGCCATTGTTCAC Qy 3810 TTTCTGTGTGTGAGACCCT Db 3833 CACCATCCAGGTGTGTACACAGA Qy 3870 AAGGTGTGCCCTGTACACAGAG

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948 GCGTGGACCGAGTGACCGTGGTTTCTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC	788 TGCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC		Qy 668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	QY 608 TCAGGCCCGGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	QY 548 GGCTCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC 607	OY 488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT 547	Qy 428 CCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGGGG	Qy 368 GCTGCTGGACGGGGCCCGCGGGGGGCCTCCCCGAGGCTTCACCACCAGCGTGCGCAGCTA 427	Qy 308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC 367	Qy 248 ACGGCCGCCCCCCCCCCCCCCCCCCCCAGGTGTCCTGCCTG	Qy 188 GGACCCGGCGGCTTTCCGCGCGCGCTGGTGGCCCAGTGCCTGGTGTGTGT	Qy 128 GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGGCTGGTGCAGCGCGG 187	Qy 68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT 127	QY 8 GCAGCGCTGCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATGCC 67	Query Match 82.4%; Score 3306.6; DB 14; Length 4015; Best Local Similarity 89.9%; Pred. No. 0; Matches 3618; Conservative 0; Mismatches 359; Indels 46; Gaps 5;	; transcriptase (hTRT) catalytic protein; ; SEQUENCE DESCRIPTION: SEQ ID NO: 224: US-10-053-758-224	; NAME/KEY: CDS ; LOCATION: 563454 ; OTHER INFORMATION: /product= "hTRT" ; /note= "human telomerase reverse	TOPOLOGY: linear MOLECULE TYPE: cDNA FEATURE:
Фу 193	Qy 180	Оу 1808 Db 1801	Qy 1748 Db 1741					, بر د	1 13 5						ין יין נ	10 10	Qy 9	8 9
28 CTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGC 1987	168 GGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGGCCCGCCC	108 CAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867 	.748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807 	CAAGTTCCTGCACTGGCTGATGAGTCTGTACGTCGTCGAGCTGCTCAGGTCTTTCTT	GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCTGAGGAGATCCTGGC	GCTCTCGCTGCAGGAGCTGACGTGGAAAATGAGGGTGCGGGACTGCGCTTGGCTGCGCAG	CAACGAACGCCCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA			AGCCGGTGTCTGTGCCCGGGAGAAGACCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGAGGAGGAGGAGGAGGAGGAG	GIGCUCCIACAGGOGIGCICCICADAGACGAACIGCCCCCCCCCCCCCCCCCCC		CACCALCII I LINGGII CHAGGECCIGGAIGECHAGGAIC CECCEGAGGIICCCACACA CACCALAGAICA CACCACAGAICA CACCACACACACACACACACACACACACACACACA	CCCTTCTTCTACTCAGCTCTGAGGCCCAGCCTGACTGGCGCGAGGCTCGGAGGCTGGGAGGCTCGTGGA	028 CCCGGTGTACGCCGAGACCAAGCACTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCG 1087 021 CCCGGTGTACGCCGAGAACCAAGCACTTCCTTCTACTCCTCAGGCGACAAGGAGCACACGCGCGCCCCCCCC	968 GCACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCATCCGATCCGTGGGCCGCCA 967	

ESULT 6 S-10-208-243-1 Sequence 1, Application US/10208243	US ,	3008 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 3067
3990 AAA 3992 0 4013 AAA 4015	g Q	2948 CGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG 3007
3930 ATTGG	д Q	2888 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCCTTCAACCG 2947
3870 AAGGTGTGCCCTGTACACAGGCGAGGACCCTGCACCGGATGGGGGTCCCTGTGGGTCAA	QQ QQ	28 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGCTGGATACCCGGACCCTGGAGGT 28
3 8	Qy Db	768 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 282
3750 CTGAJATTCAAGCCATGTCGAACCTGCGGTCCTGAGCTTAACAGCTTCTACTTTCTGTTC	dd dg	2708 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGAGTGA
3690 CAGICACCHICCICIGCCCTIGACACTITIGICCAGCALAGGAGGITICIGATICGI 	D Q	2648 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCCCACGCGAAAAC 2707
3630 CCICTRAGARACAGAGGCCGGCTATCACCACAGAGGCCCCGGCCGCCCCACCCC 3661 GAGTGTCCAGCACACCACCACAGGCTGGCGCTCCACCCC	op og	2588 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT 2647
35/5 CITGIIGCAAACCCAGGCCAGGCCAGGCCAGGCCAGGCCA	}	2528 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTG 2587
3513 GULLO CULTIFICATION GENERAL INGGENERAL	מם עט	2468 CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACGACGACGCGTGCGCATCAGGGG 2527
3455 GGGAAG 3481 GAGCAG	;	2408 GACCAGCCGCTGAGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAG 2467
3418 TOTAL SALES CONTROL TO CANCELLA CONTROL TO CONTROL	S & &	2348 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGA 2407
3350 GUILGELLIGUELLI LEGEGELIGAGERAGERIGERE LEGEGERAGECERACCEGGE 3361 GUIGAGTCGGAAGCTCCCGGGGGACGTGACTGCCCTGGAGGCCGAGCCAGCC	אם אם	2288 TCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCA 2347
3298 GOTTERAGRATICTERIC CONTITUGUATE GARAGE GOTTERAC CHARLES LAGE 3201 GACTEGACACCOTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACACGCCAGACGCA 3301 GACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACACGCACG	;	2228 GGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTACTGCGTGCG
3238 CLICAS INSCANSICAS INCLINE INSTITUTE INTERIOR INFORMACIONALISAS INVESTIGATION OF THE STATE	? B \$	2168 GCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGCGCGTACGACACCCATCCCCCA 2227
3188 CIGCIACICCAICCIGAAAGCCAAGAACGCAGGAATGICGCTGGGGGCCAAGGGCGCCGC 3181 CIGCIACICCAICCIGAAAGCCAAGAACGCAGGATGICGCTGGGGGCCAAGGGCGCCGC	? P S	2108 CCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCTGTGCGGGCCCAGGACCC 2167
3120 CAMCANGIIIGAMAMACCCCACHIIIIGCGGGCGCATCICCIGACACGGCCTCCCT	5 p 5	2048 CAGCGIGCTCAACTACGAGCGGGGGGGCGCCCCGGGCCTCCTGGGCGCCTCTGTGCTGGG 2107
3068 CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGTG		1921 CTTCATCCCCAAGCCTGACGGCCTGCCGACTTGTCAACATGGACTACGTCGTGGGAGC 1980 1988 CAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTGTT 2047

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2768 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAGAT 2827	641 GCTCCTGCGTTTGGTGATGATTTCTTGTTGTGACACCTCACCTCACCCACGCGAAAAC 2 708 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAA 2 701 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAA 2	GCTACGGCGACATGGA 	28 CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGCTCCATCCTCTCCACGCTGCTCTG 25	468 CAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCACCACGACGACGACGACGACGACGACGACGACGACGAC	08 GACCAGCCGCTGAGGGATGCCGTCGTCATCGAGCAGCAGCTCCTCCTCAATGAGGCCAG 2	CGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTCAACGACGACGACAGACA	TCGGTATGCCGTGGTCCAGAAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAGCCA 2	$\alpha - \alpha$	2168 GCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGCGTACGACACCATCCCCCA 2227		048 CAGCGTGCTCAACTACGAGCGGGGGGGGGGGCGCCCGGGCCTCCTGGGGGGCCTCTGTGCTGGG	H—H 20	CGATTGTGAACATGGACTACGTCGTGGGAGC 19	OTGACGTCCAGI	1808 CAAGTTGCAAAGCATTGAAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTC 1867	1/46 ISTCACGGAGACCACGITICAAAAGACAGGCTCTTTTCTACCGGAAGAGGTGTCTGGAG 1807
ο ω σ	3720 AG 3750 CT 3780 CC	QY 3630 CCCTCTCAGGAAGGCCGTCTTCCCACGACGACGACGCCCGCC	3575 CT	QY 3515 GCCTCTCCTGTTGCCCTGTGGGATTGGGCTGTCTCCCGTCCATGGCACTTAGGGCCC	QY 3455 GGGAAGCGCTGGGGGGGCTTGTCTCTCTTTTTGCCCCATGGTGGGATTTTGGGGGGGCCTG	QY 3418 TCTGGGAGCTGCCATCCTTCCCACCTTGCTCT	QY 3358 GCTCGTCTGCCCGCCCTCTCGTGGGGTGAGCACAGGAGCACCTGATGGAAGGGACAGGAGCTG Db 3361 GCTGAGTCGGAAGCTCCCGGGGGACGACGCTGACTGCCCTGGAGGCCGAGCCAACCCGGC	QY 3298 GGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAGTGGTTTAACCCAACCACTGTCAG Db 3301 GACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCA	OY 3238 CCTCAGTGGCAGCAGTGCCTGCCTGCTGGTGTTAGTGTGTCAGGAGACTGAGTGAATCTG	QY 3188 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGTATGTGCAGGTGCCTGG	QY 3128 TCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGGGGGTCATCTCTGACACGGCCTCCCT	QY 3068 CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTTCA	QY 3008 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA	Qy 2948 CGGCTTCAAGGCTGGGAGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG	QY 2888 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAACCG	Db 2821 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGATACCCGGACCCTGGAGGT
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; ICCATION: 563454 ; OTHER INFORMATION: /product= "hTRT" ; /note= "human telomerase reverse transcriptase (hTRT) catalytic protein component" SEQUENCE DESCRIPTION: SEQ ID NO: 224:	; STRANDENNESS: single ; TOPOLOGY: linear ; MOLECULE TYPE: cDNA ; FEATURE: ; NAME/KEY: CDS		REFERENCE/DOCKET NUMBER: 015389-002930US TELECOMMUNICATION INFORMATION: TELEPHONE: (415) 576-0200 TELEPAY. (415) 576-0300	FILING DATE: 01-CGT-1996 ATTORNEY/AGENT INFORMATION: NAME: Apple, Randolph T. REGISTRATION NIMERE: 36 429	FILING DATE: 15-APR-1997 APPLICATION NUMBER: US 08/844,419 FILING DATE: 18-APR-1997 APPLICATION NUMBER: US 08/724 643	_	US/10/054,295	MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible COPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1 0 Version #1 30	STATE: California COUNTRY: United States of America ZIP: 94111 COMPITTED PRADDRIF FORM.	CORRESPONDENCE ADDRESS: ADDRESSEE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, 8th Floor CITY: San Francisco	Harley, Calvin Harley, Calvin Andrews, William H. ITILE OF INVENTION: No. US20030044953Alel Telomerase	Lingne Nakamu Chapma	224, Applicatio ion No. US200300 L INFORMATION:	SULT 7	Cy 3990 AAA 3992	3930 ATTGGGGGAGGTGCTGGGAGTAAAATACTGAATATATGAGTTTTTCAGTTTTGAAAA 	Db 3893 AAGGTGTGCCCTGTACACAGGCGAGGACCCTGGACCTGGAGGGGGTCCCTGTGGGTCAA 3952
901 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCCACTCCCATCCGTGGGCCCCA 968 GCACCACGCGCCCCCCATCCATCCACACGCGCCACCCACTCCGGACACGCCTTGTCC 961 GCACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 961 GCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC	CCGCCGAAG CGCCGAAG	TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 8	Qy 728 GAGGCGGGGGGCAGTGCCAGCCGAAGTCTGCCCCAAGAAGGCCCAGGCGTGGCGC 787	Qy 668 CTGGAACCATAGCGTCAGGAGGCCGGGGTCCCCCTGGGGCCTGCCAGCCCCGGGTGCGAG 727	Qy 608 TCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	OY 548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCTGTACCAGCTCGGCGCTGCCAC 607	Qy 488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGGACGCTGCTTTGTGCTGGT 547	Qy 428 CCTGCCCAACACGGTGACCGACGGCGCGGGGGGAGGGGGGGG	Qy 368 GCTGCTGGACGGGGGCCCGCGGGGGCCTTCACCACCAGCGTGCGCAGCTA 427	Qy 308 CCGAGTGCTGCAGAGGCTGTGCGAGGCGGGGGGGAAGAACGTGCTGGCCTTCGGCTTCGC 367	Qy 248 ACGGCCGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	Oy 188 GAACCCGGCGGCTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCCTGGGAACGC 247	Qy 128 GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 187	Qy 68 GCGCGCTCCCGGCTGCCGAGGCGTGCGCTGCGCAGCACTACCGCGAGGTGCT 127	Db 1 GCAGCGCTGCTGCTGCGCACGTAGAAAGCCTGGCCACCCAC	Query Match 82.4%; Score 3306.6; DB 14; Length 4015; Best Local Similarity 89.9%; Pred. No. 0; Matches 3618; Conservative 0; Mismatches 359; Indels 46; Gaps	US-10-054-295-224

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1321 Idecidedidicidedidididididididicic Region (1980) 1380 CACABACCCCCTGCCCGGTGCACGCCCCCCGAGCACGACGACGACGACGACGACGACGA	JTACGCCGAGACCAAGCACTTCCTCTA
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2416 CASTGCCTCTTCSACGTCTTCCTTCACGTTCATGTCCACCACGCGTTCCACGCGTTCACGTTCATGTCCACACACGTTCATGTCCACCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCACCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCGTTCCACGCTTCACGCGTTCCACGCTTCACGCGTTCCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCACGCTTCAACGCTTCAACGCTTCAACGCTTCAACGCTTCAACGCTTCAACACATTTCCCCGTAACACACAC	

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RESULT 8
US-10-054-611-224
US-10-054-611-224
; Sequence 224, Application US/10054611
; Publication No. US20030059787A1
; GENERAL INFORMATION:
Nakamura, Toru
Chapman, Karen B.
Morin, Gregg B.
Marley, Calvin
Andrews, William H.
TITLE OF INVENTION: No. US20030059787A1el Telomerase
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Best Local Similarity 89.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: Plentin PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Ve
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/10/054,611
FILING DATE: 18-Jan-2002
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
ATTORNEY/AGENT INFORMATION:
NAME: APPLE, Randolph T.
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002
TELECOMMUNICATION INFORMATION:
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LENGTH: 4015 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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CORRESPONDENCE ADDRESS:
ADDRESSZE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
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OTHER INFORMATION: /product= "hTRT"
/note= "human telomerase reverse
transcriptase (hTRT) catalytic protein
component"
                                                            GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCGGCTGGCAGCGCGG
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TELEPAX: (415) 5
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FILING DATE: «Unknown»
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
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STATE: California
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Pred. No. 0;
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CTGTCTCCCGTCCATGGCACTTAGGGCC 3574	s decretererringeecergragagaringag	351!	\$
CCATGGTGGGATTTGGGGGGCCTG 3514	5 GGGAAGCGCTGGGGGGGCTGGTCTCCTGTTTTGCCC	345 348	음 성
GCCACCCGCCCACAGCCAGGCCGA 3480	8 TCTGGGAGCTGCCATCCTTCCCACCTTGCTCT	341; 342;	유 성
CACCTGATGGAAGGGACAGGAGCTG 3417	8 GCTCGTCTGCCCGCCCTCTCGTGGGGTGAGCAGGCAC	3 3 6 5	유왕
AGTGGTTTAACCCAACCACTGTCAG 3357	8 GGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAG	329 330	유 성
GGTGTTAGTGTGTCAGGAGACTGAGTGAATCTG 3297	8 CCTCAGTGGCAGCAGTGCCTGCTGCTGCTGCTGCTGCTGCTGCCTCCGAGGCCGTGCAGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCAGGCCGTGCA	323I 324	음 성
RGTGCAGGTGCCTGG 3237	8 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGTATG	318	유 상
GCTCATCTCTGACACGCCTCCCT 3187	8 TCAGCAAGTITGGAAGAACCCCACATITTTCCTGCGCGI	312 312	유성
ATGTGTGCTGCAGCTCCCATTTCA 3127	8 CAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATG	306; 306;	유 성
CCAGACGGTGTGCACCAACATCTA 3067	8 TCACAGCCTGTITCTGGAITTGCAGGTGAACAGCCTCCA 	300	유
CTTIGGGGICTIGCGGCIGAAGIG 3007 CTTIGGGGICTIGCGGCIGAAGIG 3000	8 CGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTT 	294 294	유 상
CAGAGCCAGTCTCACCTTCAACCG 2947 CAGAGCCAGTCTCACCTTCAACCG 2940	8 GCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCA	2 28 8 28 8	. 음 왕
RGCTGGATACCCGGACCCTGGAGGT 2887	8 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTC	282 282	유
IGGGTGGCACGGCTTTTGTTCAGAT 2827 	8 GACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGG	276 276	유 성
ATGGCTGCGTGGTGAACTTGCGGAA 2767 	8 CTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGG	270 270	유성
DACCTCACCTCACCCACGCGAAAAC 2707	8 GCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACAC	264 264	유
TTGCGGGGATTCGGCGGGACGGGCT 2647 	8 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGC 	25 8 8	음 성
SCTCCATCCTCTCCACGCTGCTCTG 2587	B CAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTC	252 252	유 성
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SOFTWARE: PatentIn version 3.1
SEQ ID NO 1
LENGTH: 4015
TYPE: DNA
ORGANISM: Homo sapiens
NAME/KEY: CDS
LOCATION: (56)...(3454)
OTHER INFORMATION:
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                                                                                                                                                                 Query Match 82.4%; Score 3306.6; DB 14; Length 4015; Best Local Similarity 89.9%; Pred. No. 0; Matches 3618; Conservative 0; Mismatches 359; Indels 46; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1, Application US/10105963
Publication No. US20030068818A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Denning, Chris
APPLICANT: Clark, A. John
APPLICANT: Schiff, J. Michael
APPLICANT: Schiff, J. Michael
TITLE OF INVENTION: Animal Tissue with Carbohydrate Antigens Compatible for Human
TITLE OF INVENTION: Transplantation and a Carbohydrate Determinant Selection System
TITLE OF INVENTION: Recombination
FILE REFERENCE: 731/002
CURRENT APPLICATION NUMBER: US/10/105,963
CURRENT FILING DATE: 2002-03-21
PRIOR APPLICATION NUMBER: US 60/277,811
PRIOR FILING DATE: 2001-03-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Geron Corporation APPLICANT: Denning, Chris
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                                                                                              8 GCAGCGCTGCGTGCTGCTGCGCACGTGGGAAGCCCCTGGCCCCCGGGCCACCCCCGCGATGCC 67
                                                         GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCCTGGCCCCGGCCACCCCCGCCGATGCC 60
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QY 1148 GACC	Qy 1088 GCCC	Qy 1028 CCCC	968 961	Qy 908 CACC	Qy 848 GCGT	Qy 788 TGCC	Qy 728 GAGG	Qy 668 CTGGAAC Db 661 CTGGAAC	Qy 608 TCAC Db 601 TCAC	Qy 548 GGCTCC	Qy 488 CCGC	Qy 428 CCTC	Qy 368 GCTC	Qy 308 CCG#	Qy 248 ACGG Db 241 ACGG	Qy 188 GGAC Db 181 GGAC	Qy 128 GCCC Db 121 GCCC	Db 61 GCGC
ATCTTTCTGGGTTCCAGGCCCTGGATG	GCCCTCCTTCCTACTCAGGTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGGCCTCCTGACTCCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCG	TIGTACGCCGAGACCAAGCACTTCCTC 	JACGCGGGCCCCCATCCACATCGCGG 	CTCTTTGGAGGTGCGCTCTCTGGCACG	GACCGAGTGACCGTGGTTTCTGTGTG 	CCTGAGCCGGAGCGGACGCCGTTGGG	GCGGGGGCAGTGCCAGCGAAGTCTG	AACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGT	GGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAA 	<u>2</u> =2	:CGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTT	CTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGCGTGGGGGCTG	CTGCTGGACGGGGCCCGCGGGGGCCCCCGAGGCCTTCACCACCACGTG	CGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGAAGAACGTGCTGGCCTT 	CGGCCGCCCCGCCGCCCCCCTCCTTCCACCAGGTGTC	GGACCCGGCGCTTTCCGCGCGCTGGTGGCC 	TIGGCCACGITCGIGCGGCGCCTGGGG 	
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2228 GARCAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCCAGAACACGTACTGCGTGCG	61	3 2 3	4 4 8	1988 CAGAACGTTCCGCAGAGAA 1981 CAGAACGTTCCGCAGAGAA	28 21	6 6	1808 CAAGTTGCAAAGCATTGGA 1801 CAAGTTGCAAAGCATTGG	1748 TGTCACGGAGACCACGTT 1741 TGTCACGGAGACCACGTT		21	6 6				, μ α			1141 GACCATCTTTCTGGGTTC
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3008 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTACCAACATCTA 3067 3001 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTA 3060 3068 CAAGATCCTCCTGCTGCAGGGGTACAGAGCCTCCCAGCAGGTTGCAGCTCCCAACATCTA 3060 3068 CAAGATCCTCCTGCTGCAGGGGTACAGAGCTTCACGCATGTGTGCTGCAGCCTCCCATTTCA 3127 3061 CAAGATCCTCCTGCTGCAGGCGTACAGGGTTTCACGCATGTGTGCTGCAGCCTCCCATTTCA 3120 3128 TCAGCAAGTTTGGAAGACCCCACATTTTCCTGCGCGTCATCTCTGACACGGCCTCCCT 3187 3121 TCAGCAAGTTTGGAAGACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCT 3180 3188 CTGCTACTCCATCCTGAAAGCCCAACATTTTTCCTGCGGGTCATCTCTGACACGGCCTCCCT 3180 3181 CTGCTACTCCATCCTGAAAGCCCAACAACGCAGGATGTCCTGGAGGGCCAACAGGGCCTCCCT 3180 3181 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCCTGGGGGCCAAGGGGCCCCG 3240 3238 CCTCAGTGGCAGGAAGGCCAAGAAAGCCAAGGAGAGAGAG	2288 TCGGTNTGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAAGCCA 2347 2281 TCGGTNTGCCGTGGTCCAGAAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTCAAGAACCCA 2340 2348 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGGCACAGTTCGGCAAGGCCTTCAAGAACCCA 2400 2348 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGGCACAGTTCGTGCGCTCACCTGCAGGA 2400 2341 CGTCTCTACCTTGACAGACCTCCAGCCGTACATGGCACAGTTCGTGCGCTTCACCTGCAGGA 2400 2342 CGTCTCTACCTTGACGAAGCCTCAAGCCGTACATGAGCCACAGCTCCTCCCTC
RESULT 10 US-10-044-692-1 Sequence 1, Application US/10044692 Publication No. US20030096344A1 GENERAL INFORMATION: Lingner, Joachim Lingner, Joachim Nakamura, Toru Chapman, Karen B. Morin, Gregg B. Harley, Calvin Andrews, William H. TITLE OF INVENTION: HUMAN TELOMERASE CATALYTIC SUBUNIT: DIAGNOSTIC AND THERAPEUTIC METHODS CORRESPONDENCE ADDRESS: ADDRESSE: Townsend and Townsend and Crew LLP STREET: Two Embarcadero Center, 8th Floor CITY: San Francisco STATE: California COUNTRY: United States of America ZIP: 94111 COMPUTER READABLE FORM:	Qy 3358 GCTCGTCTGCCCCCCTTCGTGGGGTAGCAGAGCACGTAACGAAAGGAACGGACTTGCCTCTGATCGACCTGATCGAACGAA

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Db 301 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGAGGGCGTGCTGGCCTTCGCCTTCGC 360 368 GCTGCTGGACGGGGGCCCGCGGGGGCCTTCACCAGCGTGCGAGCTA 427	QY 308 CCGAGTGCTGCAGAGGCTGTGCGAGGCGCGAAGAACGTGCTGGCCTTCGCCTTCGC 367	248 ACGGCCGCCCCCCCCCCCTCCTTCCGCCAGGTGTCCTGCCTG	Qy 188 GGACCCGGCGGCTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCCTGGGACGC 247	Qy 128 GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCTCGAGGCTGGTGGAGGGCGGG 187	OY 68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCGCAACCACTACCGCGAGGTGCT 127	QY 8 GCAGCGCTGCGTCCTGCGCACGTGGGAAGCCCTGGCCCCGGGACCCCCGCGATGCC 67	Query Match B2.4%; Score 3306.6; DB 14; Length 4015; Best Local Similarity 89.9%; Pred. No. 0; Matches 3618; Conservative 0; Mismatches 359; Indels 46; Gaps 5;	SEQUENCE DESCRIPTION: SEQ ID NO: 1: US-10-044-692-1	transcriptase (hTRT) catalytic protein		; STRANDENNESS: single ; TOPOLOGY: linear ; MOLECULE TYPE: cDNA ; FEATURE:	; INFORMATION FOR SEQ ID NO: 1: ; SEQUENCE CHARACTERISTICS: ; LENGUTH: 4015 base pairs ; TYPE: nucleic acid	REFERENCE/DOCKET NUMBER: 015389-002600US ; TELECOMMUNICATION INFORMATION: ; TELEPHONE: (415) 576-0300 ; TELEFAX: (415) 576-0300	FILING DATE: 01-OCT-1996 ATTORNEY/AGENT INFORMATION: NAME: Apple, Randolph T. REGISTRATION NUMBER: 36,429	FILING DATE: 25-APR-1997 APPLICATION NUMBER: US 08/844,419 FILING DATE: 18-APR-1997 APPLICATION NUMBER: US 08/724.643	FILLING DATE: 09-MAX-1199/ APPLICATION NUMBER: US 08/851,843 FILLING DATE: 06-MAY-1997 APPLICATION NUMBER: US 08/846,017	FRIOR APPLICATION NUMBER: 08/912,951 FILING DATE: <unknown> APPLICATION NUMBER: US 08/854,050 APPLICATION NUMBER: US 08/854,050</unknown>	071322	COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patientin Release #1.0, Version #1.30
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48 CGGCTTCGTGCCGGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACCAGCAGCCCCTGGCAGGTGTA 1447	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCGAGGGTTCTGTGGCGGCCCCGGAGGAGGAGA 1390	61 GTGCCCCTACGGGGTGCCTCCAAGACGCACTGCCGCTGCGAAGCTGCGGTCACCCCAGC		4 4 0	88 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCGAGCCTGAGGCGCTCGGAGGCTCGTGGGGCTCGGAGGCTGGTGGGGCTCGGAGGCTGGGGGCTGGGAGGCTGGGGGGTGGGGGGGG	28 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCAGCAGCTGCG	961 GCACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1020	968 GCACCACGGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	848 GCGTGGACCGAGTGACCCTGGTTTCTGTGTGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	TGCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGCTCTGGGCCACCCGGGCAGGAC	728 GAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCCTTGCCCAAGAGGCCCAGGCGTGGCGC 787	668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727	608 TCAGGCCCGGCCACCACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC 667	548 GGCTCCCAGCTGCGCCTACCAGTGTGCGGGCGCCGCTGTACCAGTCGGCGCTGCCAC 600	ccecareaccaccaccaccaccaccaccaccaccaccaccaccacc		

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3455 GEGRAGACCE TESTS CITIC CUCATEGR TESTS GEGRAGE GEGET GEGT GEGET GEGET GEGET GEGET GEGT G	GCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGAGCCAACCCCGGC TCTGGGAGGCTGCCATCCTTCCCACCCTTGCTCT	3291 CGGCCCTCTGCCGAGGCCGTGCAGTGAGCAGCGAAGCACGAAGCAAGC		3001 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGTGTGCACCATCTTA 300, 3001 TCACAGCCTGTTTCTGGATTTGCAGGCTGAACAGCCTCCCAGACGTGTGCACCACATCTA 300, 3001 TCACAGCCTGCTGCTGCAGGCGTACAGGCTACAGGCTTCCAGGCTGCAGGCTGCAGCTCCCATTTCA 3127 3068 CAAGATCCTCCTGCTGCAGGCGTACAGGCTTCACAGGTTTCACGCATGTGTGTG	81 GCAGAGCGACTACTCCAACTATTCCCCGGACCTCCATCAGAGCCAGTCTCAACCTGGAGCTATGCCGGACCTACCAGTCTCAACCTGGAGCGACTACTCCAGCTATGCCGGAACTACTCAGAGCCAGTCTCAACCTGGAAGTG 81 GCAGAGCGACTACCCCAGCTATGCCGCGAAACTCTTTTGGGGTCTTTGCGGCTGAAGTG 82 CGCCTTCAAGGCTGGGAACATGCGTCGCAAACTCTTTTGGGGTCTTTGCGGCTGAAGTG 83 CGCCTTCAAGGCTGGGAACATGCGTCGCAAACTCTTTTGGGGTCTTTGCGGCTGAAGTG 84 CGGCTTCAAGGCTGGGAACATGCGTCGCAAACTCTTTTGGGGTCTTTGCAGCACAAACTG		2588 CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGGGACGGGCT 2647

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US-10-044-539-1
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                                                                                                                                                                                                                                                          ZIP: 94111

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DCS/MS-DOS
SOPTWARE: Patentin Release #1.0, Version #1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/044,539
FILING DATE: 11-Jan-2002
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nakamura, Toru

Nakamura, Toru

Chapman, Karen B.

Morin, Gregg B.

Morin, Gregg B.

Harley, Calvin

Harley, Galvin

Andrews, William H.

THERAPEUTIC METHODS

THERAPEUTIC METHODS
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ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
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FILING DATE: 25-APR-1997
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGGGGGGAGGTGCTGTGGGAGTAAAATACTGAATATATGAGTTTTTTCAGTTTTTGAAAA 3989
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                                                                                                                        APPLICATION NUMBER: US 08/851,843 FILING DATE: 06-MAY-1997
                                                                                                                                                                                APPLICATION NUMBER: 08/912,951 FILING DATE: <Unknown>
APPLICATION NUMBER: US 08/854,050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAA 4015
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                                                                                                                                                                 FILING DATE: 09-MAY-1997
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Matches 3618; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IAME/KEY: CDS
IACATION: 56..3454
OTHER INFORMATION: /product= "hTRT"
/note= "human telomerase reverse
transcriptase (hTRT) catalytic protein
component"
SEQUENCE DESCRIPTION: SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Apple, Randolph T.
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002600US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: CDNA
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                                         601 TCAGGCCCGGCCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGGC
                                                                                                                        541 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC
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  668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGTGCGAG 727
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                                                                                                                                                                 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGCTGCCAC
                                                                                                                                                                                                                                                                                      CCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGCGGGGCGTGGGGGGCTGCTGCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGACCCGGCGCTTTTCCGCGCGCGCTGGTGGCCCAGTGCCTTGGTGTGCCCTTGGGACGC
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TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCCGGCCACCCCCGCGATGCC 60
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89.9%;
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Pred. No. 0;
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2828 GCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGATACCCGGACCCTGGAGGT 288		1748 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG 1807	Ş
	Db QY	1688 CAAGTTCCTGCACTGGCTGATGAGTGTGTGCGTCGTCGAGCTGCTCAGGTCTTTCTT	유 성
CITCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGTGGGTG	B 6	1628 GAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGC 1687	g 8
GCTCCTGCGTTTGGTGATTTCTTGTTGGTGACACCTCACCCACC	\$ B &	1568 GCTCTCGCTGCAGGAGCTGACGTGGAACATGAGCGTGCGGACTGCGCGTTGGCTGCGCAG 1627	용성
CAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGGGACGGGCT 	D 64	1508 CAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCATGCCAA 1567	A 43
CAMPICETACETICAGISCAGAGGATICCCGCAGGGTCCATCCTCTCCACGCTGCTCTG	B &	1448 CGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCCAGGCA 1507	유 성
CASTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATCAGGGG CASTGGCCTCTTCGACGTCTTCATGTGCCACCACGCCGTGCGCATCAGGGG CASTGGCCTCTTCGACGTCTTCATGTGCCACCACGCCGTGCGCATCAGGGG CASTGGCCTCTTCGACGTCTTCATGTGCCACCACGCCGTGCGCATCAGGGG CASTGGCTACGTGCTACGTGCTAGGTGCACGCCGTGCGCATCAGGGG CASTGGCTACGTGCTAGGTGCTAGGTGCTAGGTGCACACGCCGTGCACACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGTGCACGCGCGTGCACGCGCGTGCACGCGCGTGCACGCGCGTGCACGCGCGTGCACGCGCGTGCACGCGCGTGCACGCGCGTGCACACACA	S & 5	1388 CACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCACCAGCCCCTGGCAGGTGTA 1447	B 8
B GACCAGCCGCTGAGGGATGCGTTCGTCATCGAGCAGAGCTCCTTCCT	p &	1328 AGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGAGGAGGA 1387	Å Å
GICCICTACCITGACAGACCTCCAGCGGTACATGGACAGTGGAGGA 2	S & &	1268 GTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGGAGCTGCGGTCACCCCAGC 1327	D 49
TOGETHATECUTETICAGEAAAGCUGCCCATGGGCACGCCTAGAGCCTTCAAGAGCCACGCCAAGGCCTTCAAGAGCCACGCCCAAGGCCTTCAAGAGCCAAGGCCCAAGGCCCTTCAAGAGCCAAGGCCCAAGGCCCTTCAAGAGCCAAGGCCCAAGGCCCTTCAAGAGCCAAGGCCCAAGGCCCTTCAAGAGCCAAGGCCCAAGGCCCTTCAAGGCCAAGGCCCAAGGCCCTTCAAGGCCAAGGCCCAAGGCCCAAGGCCCTTCAAGGCCAAGGCCCAAGGCCCTTCAAGGCCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCCAAGGCCCTTCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCAAGGCCCTTCAAGGCCCAAGGCCCCAAGGCCCTTCAAGGCCCAAGGCCCCAAGGCCCTTCAAGGCCCCAAGGCCCCAAGGCCCTTCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCTTCAAGGCCCCAAGGCCCCAAGGCCCTTCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCTTCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCTTCAAGGCCCCAAGGCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCTTCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCCAAGGCCAAGGCCAAGGCCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCAAGGCAAGGCAAGGCAAGGCCAAGGCAAGGCCAAGGCCAAGGCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCAAGGCAAGGCCAAGGCAAGGCCAAGGCCAAGGCAAGGCCAAGGCCAAGGCAAGGCCAAGGCCAAGGCAAGGCCAAGGCCAAGGCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCAAGGCCA	S & &	1208 GCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCA 1267	B 8
GARCAGGCICACGGAGGICATCGCCAGCATCAICACACCCCAGAACACGTACTGCGTGCG	S & &	1148 GACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCCCGCCT 1207	8 8
168 GCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGTACGACACCATCCCCCA 2	}	1088 GCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTCGTGGA 1147	유
CTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCCCAGGACCC 2) B &	1028 CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGCAGCAGCAGCTGCG 1087	망양
CAGCGFGCTCAACTACGAGGGGGGGGGGGGGGGGGGGGGG	, B &	968 GCACCACGCGGGCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	Оу
CAGAACGTTCCGCAGAGAAAAGAGGCCCGAGGGTCTCACCTCGAGGGTGAAGGCACTGTT CAGAACGTTCCGCAGAGAAAAAGAGGCCCGAGGGTCTCACCTCGAGGGTGAAGGCACTGTT) B &	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGACTCCCACCCA	90 VQ
928 CTTCATCCCCAAGCCTGACGGGCTGCGGCGGATTGTGAACATGGACTACGTCGTGGAGGC	γ g γ	848 GCGTGGACCGAGTGACCGTGGTTTCTGTGGGTGTCACCTGCCAGACCCGCCGAAGAAGC 907	B 3
B GGAAGCAGAGGTCAGGCAGCTCCAGACTCC	d dd	788 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGCAGGAC 847	8 8
CAAGTTGCAAAGCATTGGAATCAGACAGCTTGCAGAGGGTGCAGCTGCGGGAGCTGTG	B &	728 GAGGCGCGGGGGCAGTGCCGAAGTCTGCCCTTGCCCAAGAGGCCCAGGCGTGGCGC 787	A 40
1 TGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAG	Db		Db
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Qy 493 T	
Db 427 C	192 — АРСИЛИЦИИ СО ПОТИТИТИТЕ В В В В В В В В В В В В В В В В В В В
Qy 433 C	3810 TITCTGTGTTGTGGAACCCTGAAAGGACCCTGGGAAGTTCTGGAAATTTTGGACGACCA 3859 1 1 1 1 1 1 1 1 1 1
Db 367 1	1/80 CCCAGAIXCACCAILTAITCACCCCICACCCIGCCTICCIIIACCIICCAACCC
Qy 373 T	750 CIGNAATTCAAGCCATGTCGAACCTGCGATCCTGAGCTTAACAGCTTCTACTTTCTGTTC 3
Db 307 I	/20
Qy 313 T	690 CCRIFICACICETCETCETGECCCCTGGECACCATTGTCCAGCATTTCCAATCAGGAAGGTTTCTGATCCGT
Db 247 C	פפן מאפופורהשפרעראררופררפורו-ורארווררראראפרנומפרפרורמפרוררארררר פ
Фу 253 С	630 CCCTCTCAGGAGCAGAGGCCGCGTATCACCACGACAGAGAGCCCCGCGCCGTCCTCTCTCT
Д	3601 CATGTCCGGCTGAÁGGCTGÁGTGTCCGGCTGAGGCTGAGCGAGTGTCCAGCCAAGGGCT 3660
<u> </u>	3575 CTTGTGCAAACCCAGGCCAAGGGCTTAGGAGGAGGCCAAGGCCCAGGCTACCCCAC 3629
Qy 133 T	
Db 67 C	3515 GCCTCTCCTGTTTGCCCTGTGGTGGGATTGGGCTGTCTCCCGTCCATGGCACTTAGGGCC 3574
Оу 73 с	
Db 7 G	3455 GGGAAGCGCTGGGGGGCCTGGTCTCTCCTGTTTGCCCCATGGTGGGATTTGGGGGGGCCTG 3514
Д	421 ACTGCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCCGCCCACAGCCAGGCCAG
Matches 3619;	418 TCTGGGAGCTGCCATCCTTCCCACCTTGCTCT
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; ORGANISM: A	298 GGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAGTGGTTTAACCCAACCACTGTCAG
2	3241 CGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTCAAGCT 3300
	3238 CCTCAGTGGCAGCAGCAGTGCCTGCCTGGTGTTAGTGTGTCAGGAGACTGAGTGAATCTG 3297
, PRIOR FILING ; PRIOR FILING	3181 CTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGGCCGC 3240
CURRENT FILI	3188 CTGCTACTCCAACAAGCCAAGAACGCAGGTATGTGCAGGTGCCTGG 3237
FILE REFEREN	21 TCAGCAAGTTTGGAAGAACCCACATTTTTCCTGCGCGTCATCTCTGACACGGCCTCCCT
; APPLICANT:	-1
; GENEKAL INFOR ; APPLICANT: R ; APPLICANT:	3060 CAAGATCCICCIGCIGCAGGCGTACAGGTITCACGCAIGIGGIGCIGCAGCICCCAITICA 3120 3061 CAAGATCCICCIGCAGGCGTACAGGTITCACGCAIGIGGTGCTGCAGCTCCCATITCA 3120
; Publication N	
RESULT 12 US-10-385-882-1 : Seguence 1. A	3008 TCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTTCCAGACGGTGTGCACCAACATCTA 3067
Db 4013 A	2941 CGGCTTCAAGGCTGGGAAGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAGTG 3000
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CANT: REGENTS OF THE UNIVERSITY OF MINNESOTA
CANT: FARRIS, James
CANT: FOSTER, Douglas
CANT: O'GRADY, Scott
OF INVENTION: IMMORTAL PORCINE CELLS
REFERENCE: 110.01700101
NT APPLICATION NUMBER: US/10/385,882
NT APPLICATION NUMBER: 08/10/385,882
NT FILING DATE: 2003-03-11
APPLICATION NUMBER: 60/363,129
FILING DATE: 2002-03-11
FILING DATE: 2002-03-11
R. OF SEQ ID NOS: 5
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al Similarity 89.8%; Pred. No. 0;
3619; Conservative 0; Mismatches 364; Indels 46; Gaps
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3 TCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGGAAGACAG	- VQ	1567 CGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGGCTTGGCTTGGCTGCGCAGGAGCC 1626	뭥
2653 TGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGGAAAACCTTTCC 2712	B 8	GCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGGCT	8
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GCCCGCTGAGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAATGAGGCCAGCAGTG		1333 GIGICIGIGCCCGGGAGAAGCCCCAGGGCTCIGIGGCGCCCCCGAGGAGGAGGACACAG 1392	B 8
3 CTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGCTCACCTGCAGGACACCA 1	, p 44	1273 CCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTCACCCCAGCAGCCG 1332	80
3 ATECOSTEST CANAMAGE CECCATIGAGE CANGITOT CANAMAGE CANAM	D 49	1213 AGGGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCACGCGCAGTGCC 1272	용 성
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ACGATATICACAGGGCCAGGGCCAGGACCGGCCGCGGCCGAGGACCGGCCGCGGCCGAGGACCCGCCG) p 5	1033 TGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAGCTGCGGCCCT 1092	B 8
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CAGAGE CAGGCAGCATCGGGAAGCCAGGCCCCCCCCCCCCCCAGACCTCCGCTCA	Db Ay	793 CTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGGAAGGACGCGTG 852	B 8
BI3 TOCAMAGCATTGWAATCAGACAGCTGTGGAAGGTGCGGGAGCTGTCGGAAGGTGTGGAAGGTGTGGAAGGTGTGGAAGGTGTGGAAGGTGTGGAAGGTGCAGAGTGGAAGGAGTGCAGAGGAGCTGTCGGAAGGAGCTGTCGGAAGGAGCTGCAAAGGAGCTGCAGAAGGAGCTGCAGAAGGAAG	⊋	733 GCGGGGGCAGTGCCAACGAGTCTGCCCTTGCCCAAGAGGCCCAGGCGTGGCGCTGCCC 792	B 8
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; OTHER INFORMATION: (1)..(3399)
US-09-749-728B-32
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APPLICANT: Umezawa, Akihiro
APPLICANT: Hata, Jun-Ichi
APPLICANT: Fukuda, Keiichi
APPLICANT: Ogawa, Satoshi
APPLICANT: Ogawa, Satoshi
                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn Ver.2.0 SEQ ID NO 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 32, Application US/09749728B Patent No. US20020142457A1
                                                                                                                                                                                                                                                                                                                                                               Matches 3162; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 3396
TYPE: DNA
ORGANISM: Homo sapiens
FBATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Sakurada, Kazuhiro
APPLICANT: Gojo, Satoshi
APPLICANT: Gojo, Satoshi
APPLICANT: Yamada, Yoji
TITLE OF INVENTION: THE CELL HAVING THE POTENTIALITY OF DIFFERENTIATION INTO CARDIO!
FILE REFERENCE: 00766,000043
CURRENT FILING DATE: 2001-09-17
FRIOR APPLICATION NUMBER: US/09/749,728B
CURRENT FILING DATE: 1999-12-28
PRIOR FILING DATE: 1999-12-28
PRIOR FILING DATE: 1999-12-28
PRIOR FILING DATE: 1999-12-28
PRIOR APPLICATION NUMBER: PCT-JF00-01148
PRIOR APPLICATION NUMBER: PCT-JF00-07741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3899
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                                                                                                                                                                                                                                                                                                                                                                                   78.8%; Score 3161.4; 100.0%; Pred. No. 0;
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                                                                                                                                                                                                                                                                                                                                                                                                       Length 3396;
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1261 CCAGCAGCCGTGTCTCTGTGCCCGGGAGAAAGCCCCAGGGCTCTGTGGCGGCCCCCGAGGAG 1320 1383 GAGGACACAGACCCCCGTCGCCTGGTGCAGCTCCTCGCCAGCACAGCACAGCACCCCTGGCAG 1442	— 63	1263 GCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGGTCACC 1322	1203 CGCCTGCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAACCAC 1262	1143 GTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTGCCC 1202	1083 CTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGGCTC 1142	1023 TGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAG 1082	963 CGCCAGCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCT 1022	903 GAAGCCACCTCTTTGGAGGGTGCGCTCTTGGCACGCGCCACTCCCATCCGTGGGC 962	843 AGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCGAA 902	783 GGCGCTGACCCCTGAGCCGGAACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGC 842	723 GCGAGGAGGCGGGGGGGAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCGCAAGAGGGT 782	663 CGGGCCTGGAACCATAGCGTCAGGGAAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCGGGT 722	603 GCCACTCÀGGCCCGGCCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAA 662	543 CTGGTGGCTCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGCGGC 602	483 CTGCGCCGCGTGGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTG 542	423 AGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGCGGGGGGGTGGGGGGTGCTG 482	363 TICGCGCTGCTGGACGGGGCCCGCGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGCGC 422	
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Db Qy	유 &	B &	5 B 6	\$ B &	B 5	}	g d	B &	}	B 8	} B 9) B %	}	B &	}) B (? 문	& B
3 GCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATC	2403 CAGGARANCCAGCCGGTGAGGGATGCCGTCATCGAGCAGAGGTTCCTCCCTGAATGAG 2462	A SCIENCE I CENTRE I MARCHE CANCELLA INCREMENTATION OF THE CONCENTRAL INCREMENTATION OF THE CONCENT	TOTAL STRUCTURE THE CONTROL OF THE	CCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACACCCAGAACACGTACTGC CCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACACCCCAGAACACGTACTGC CCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCCAGAACACGTACTGC CCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCCAGAACACGTACTGC CCCCAGGGACAGGCTCACGGAGGTCATCGCAGCATCATCAAACCCCCAGAACACGTACTGC CCCCAGGGACAGGCTCACGGAGGTCATCGACAGCATCATCAAACCCCCAGAACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGTACTGCAGAGACACGCTACTGCAGAGACACGTACTGCAGAGACACGCTACTGCAGAGACACGCTACTGCAGAGACACGCTACTGCAGAGACACGCTACTGCAGAGACACGCTACTGCAGAACACGCTACTGCAGAGACACGCAGAGACACGCAGAGACACGCAGAGACACACAGAGACACAGAGACACAGAGACACAGAGACACAGAGACACAGAGACACAGAGACACAGAGACACAGAGACACAGAGACACAGAGACACAGAGACACAGAGACACAGAGACACAGAGACACAGAACACAGAGACACAGAACACAGAACACAGAGACACAGAACACAGAACACAGAACACAGAGACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACACAGAACACACAACA	SHOULD CONTRACT TO THE TEACH TH	3 CTGGGCCTGGACGATATCCACAGGCCCTGGCGCCACCTTCGTGCTGCGTGTGCGGGCCCCAG 3 CTGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGCG	2043 CTGTTCAGCCTCAACTACGAGCGGGCGCGCGCCCCGGGCCTCCTGGGCGCCTCTGTG 2102	GANGCCAGAACGTTCCGCAGAGAAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCA	CONGCINANCE CHARGE CIGAL GAGGE GOOD CONTINUE AND	CTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCCCCTGCTGACGTCCAGA	TGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGTGCAGCTGCGGGAG	TITIAIGICACGGAGACCACGITTCAAAAGAACAGGCTCTTTTCTACCGGAAGAGTGTC	CTGGCCAAGTTCCTGGACTGGCTGATGAGTGTGTACGTCGTCAGGTGTTTTC	GCAGGAGCCCAGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATC	GCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGGTGGGGGACTGGCCTTGGCTG	AGGCAAACGAACGACGCCCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTTGGGGAAGCAT 1		1321 GAGGACACAGACCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAG 1380 1443 GTGTACGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCC 1502

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RESULT 14
US-09-843-676-173
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Patent No. US20020164786A1
GENERAL INFORMATION:
                                                                                                  Chapman, Karen B.

Morin, Gregg B.

Harley, Calvin
Andrews, William H.

TITLE OF INVENTION: NO. US20020164786Alel Telomerase
NUMBER OF SEQUENCES: 225

CORRESPONDENCE ADDRESS:
ADDRESSE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
CITY: San Francisco
STATE: California
COUNTRY: United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3183
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ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Cech, Thomas R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2941
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGT 3163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTTCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCC 3120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTTCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCC 3182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGGGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCACGCTG 2520
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lingner, Joachim
Nakamura, Toru
Chapman, Karen B.
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Hest Local Similarity 88.5%;
Matches 3577; Conservation
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TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 173:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCATION: 1..4029
OTHER INFORMATION: /note= "prel:
human TRT cDNA insert of
plasmid pGRN121"
SEQUENCE DESCRIPTION: SEQ ID NO: 173:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
ATTORNEY/AGENT INFORMATION:
NAME: APPLe, Randolph T.
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002930US
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/854,050
FILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
APPLICATION NUMBER: US 08/844,419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTMARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear MOLECULE TYPE: cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
                                               428
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                                                                                                                                                                                                                                                                                                                                          308 CCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                    241
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          128 GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG 187
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   GGACCCGGCGGCTTTCCGCGCGCGCTGGTGGCCCAGTGCCCTGGTGTGCCCTGGGACGC
                                                                                                                     GCTGCTGGACGGGGCCCGGGGGCCCCCCGGAGGCCTTCACCACCAGCGTGCGCAGCTA
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                                                                                                                                                                                                                                                                                                                                                                                                                 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAGCGCTGCGTCCTGCTGCGCACGTGGGAAAGCCCTGGCCCCGGCCACCCCCGCGATGCC 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGACCCGGCGCTTTCCGCGCGCTGGGCCCANTGCNTGGTGTGCGTGCCCTGGGANGN 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGG
                                                                                                                                                                                                                                                                   CCGAGTGCTGCANANGCTGTGCGANCGCGGCGCGAANAACGTGCTGGCCTTCGGCTTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY:
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STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/09/843,676 FILING DATE: 26-Apr-2001 CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 4029 base pairs
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Pred. No. 0;
0; Mismatches 412;
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	0 4	0 4	7 -ACA 4 AACA	4	AGTGCCC	7 7 7 7 6		8 GCCCTCCTTCCTACT	7 8	∞ œ	oo oo	ര	ω ω	œ œ	B CTGGAAC	B TCAGGCCCGGCC	GGCTCCCAG	8 CCGCGTGGGCGAC
	ICCTCAGGAACACCAAGAAG 	CTGCCTGCGCCGGCTGGTG	3CCTGGTGCAGCTGCTCCGC	CCGGGAGAAGCCCCAGGGCT CGGGAGAAGCCCCAGGGCT	GCTCCTCAAGACGCACTGCC 	GCAAATGCGGCCCCTGTTTC	TTCCAGGCCCTGGATGCCAG	-AGCTCTCTGAGGCCCAGCC 	accaagcacttcctctactc 	CCATCCACATCGCGGCCACC	3CGCTCTCTGGCACGCGCL 	cgregriticigrereget 	cggacgccgttgggcagg 	GCCAGCCGAAGTCTGCCGTT 	AGGGAGGCCGGGGTCCCCC1	CCACACGCTAGTGGACCCC 	TACCAGGTGTGCGGGCCGCC TACCANGTGTGCGGGCCGCC	GIGCIGGITCACCIGCIGGC
547 Db 1554 540 Qy 1626 600 Qy 1636 667 Db 1614 658 Qy 1746 727 Db 1734 717 Qy 1806 847 Db 1794 777 Db 1854 837 Qy 1986 847 Db 1994 967 Db 1994 957 Qy 1986 967 Db 1914 897 Db 2034 1134 Qy 1986 957 Db 2034 1134 Qy 2166 1134 Qy 2164 1134 Qy 2226 1206 Db 2214 1133 Qy 2346 1246 Db 2374 1253 Qy 2346 1326 Db 2334 1333 Qy 2466 1445 Db 2394 1333 Qy 2466 1445 Db 2454 1433 Qy 2526 1553 Db 2	TTCATCTCCCTGGGGAAGC	CCCCAGGCTCTGGGGCT	CAGCACAGCAGCCCTGGC 	CTGTGGCGGCCCCGAGGA 		TGGAGCTGCTTGGGAACCA		TGACTGGCGCTCGGAGGCT	CTCAGGCGACAAGGAGCAG	ACGTCCCTGGGACACGCCT	CTCCACCATCGTGGGC	ACCTGCCAGACCCGCCGAA	GTCCTGGGCCCACCCGGGC	GCCCAAGAGGCCCAGGCGT 	GGGCCTGCCAGCCCCGGGT	;AAGGCGTCTGGGATGCGAA ;AANGCGTCTGGGAT-CCAA	GCTGTACCAGCTCGGCGCT GCTGTACCAGCTCGGCGCT	ACGCTGCGCGCTCTTTGTG
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	3688 TOCCAGTCACCGTCCTCTGCCCCTGGACACTTTGTCCAGCATCAGGGAGGTTTCTGATCC 3747
	3628 ACCCCTCTCAGGAGCAGAGGCCGCGTATCACCACGACAGAGCCCCGCGCCGTCCTCTGCT 3687
; PRI	3573 CCCTTGTGCAAACCCAGGCCAAGGGCTTAGGAGGAGGAGGCCAGGCC
	3513 TGGCCTCTCCTGTTTGCCCTGTGGGGATTGGGCTGTCTCCCGTCCATGGCACTTAGGG 3572
PRI	3453 TGGGGAAGCGCTGGGGGCCTGGTCTCCCCGTTTGCCCCATGGTGGATTTGGGGGGCC 3512
PRI	3416 TGTCTGGGAGCTGCCATCCTTGCTCTGC 3452
CUR	3356 AGGCTCGTCTGCCCGCCCTCTCGTGGGGTGAGCAGAGCA
	3296 TGGGCTTAGGAAGTTCTTACCCCTTTTCGCATCAGGAAGTGGTTTAACCCAACCACTGTC 3355
	3236 GGCCTCAGTGGCAGTGCCTGCTGGTGGTGTTAGTGTGTGAGAACTGAGTGAATC 3295
; TITI ; NUM ; CORN	3186 CTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGTATGTGAGGTGCCT 3235
APP APP APP APP	3126 CATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGGGTCATCTCTGACACGGCCTCC 3185
GENER APP	3066 TACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCATTT 3125
RESULT 1: US-09-43; Sequent	3006 TGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAACATC 3065
מס	2946 CGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTGAAG 3005
ב אל אל אל	2886 GTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTCAAC 2945
ב אל אל אל אל	2826 ATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCTGGAG 2885
S	2766 AAGACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTTGTTCAG 2825
}	2706 ACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAACTTGCGG 2765
S B	2646 CTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCACGCGAAA 2705

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COMPUTER READABLE FORM:
MEDIUM TYPE: F10ppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTION DATA:
APPLICATION NUMBER: US/09/438,486
FILING DATE: 12-NOV-1999
CLASSIFICATION DATA:
APPLICATION NUMBER: US 08/851,843
FILING DATE: 05-MAY-1997
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/846,017
FILING DATE: 05-APR-1997
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
CLASSIFICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
CLASSIFICATION SAFA:
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Lingner, Joachim
APPLICANT: Nakamura, Toru
APPLICANT: Nakamura, Toru
APPLICANT: Chapman, Karen B.
APPLICANT: Chapman, Karen B.
APPLICANT: Harley, Calvin
APPLICANT: Harley, Calvin
APPLICANT: Andrews, William H.
IITLE OF INVENTION: No. US20030009019A1el Telomerase
NUMBER OF SEQUENCES: 223
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, 8th Floor
CLASSIFICATION: 536

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/724,643

FILING DATE: 01-OCT-1996

CLASSIFICATION: 536
ATTORNEY/AGENT INFORMATION:
NAME: Apple, Randolph T.
REGISTRATION NUMBER: 36,429
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PLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RY: United States of America 94111-3834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            San Francisco
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OY 728 GAGGCGCGGGGGCAGTGCCAAGCCGAAGTCTGCCCTAAGAGGCCCAAGACGTGGCG	OY 668 CTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCTCGGCCTGCCAGCCCCGGGTGCCA	Qy 608 TCAGGCCCGCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCGAACGGG	QY 548 GGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCCCCTGTACCAGCTCGGCGCTGCCAGCTGCCCAGCTGCCCAGCTGCCCCAGCTGCCCCAGCTGCCCCCCCC	Qy 488 CCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTGTGCTGGT	Qy 428 CCTGCCCAACACGGTGACCGACGCACTGCCGGGGGAGGCGGGGGGGG	QY 368 GCTGCTGGACGGGGGCCCGCGGGGGGCCTTCACCACCACCAGCGTGCGCAGCTA	QY 308 CCGAGTGCTGCAGAGGCTGTGGGAGGAGGAAGAACGTGCTGGCCTTCGGCTTCG	Qy 248 ACGGCCCCCCCCCCCCCCCCCCCCCCCCCCCCGCCAGGTGTCCTGCCTG	Qy 188 GGACCCGGCGGCTTTCCGCGCGCTCGTGGCCCAATGCCTGGTGTGCGTGC	QY 128 GCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGCGCTGGTGCAGCGCGGGCGCGGCTGGTGCAGCGCGGGCGCGGGCGCGGGGCGCGGGGGCGCGGGGGG	- Qy 68 GCGCGCTCCCCGCTGCCGAGCCGTGCGCTGCCTGCCGCAGCCACTACCGCGAGGTGCCCGCGCGCG	Qy 8 GCAGCGCTGCGTGCTGCGCACGTGGGAAGCCCTGGCCCCGGGCCACCCCGCGATGC	Query Match 78.8%; Score 3159.8; DB 10; Length 4029 Best Local Similarity 88.5%; Pred. No. 0; Matches 3577; Conservative 0; Mismatches 412; Indels 55;	; OTHER INFORMATION: /note= "preliminary sequence for ; OTHER INFORMATION: human TRT cDNA insert of ; OTHER INFORMATION: plasmid pGRN121" US-09-438-486-173	; MOLECULE TYPE: CDNA ; FEATURE: ; NAME/KEY: ; LOCATION: 14029	; LENGTH: 4029 base pairs ; TYPE: nucleic acid ; STRANDEDNESS: single ; TOFOLOGY: linear	TELEPHONE: (415) 576-0200 TELEPAX: (415) 576-0300 INFORMATION FOR SEQ ID NO: 173: SEQUENCE CHARACTERISTICS:	; REFERENCE/DOCKET NUMBER: 015389-002931US ; TELECOMMUNICATION INFORMATION:
TGGCGC 787 Db	CGGGTGCGAG 727	C 667	C 607	T 547	CG 487	A 427 A 420	GY 	TGGTGGC 307	247	187	T 127	C 67	; ; Gaps 13;	dם Vo	οy	Qγ	ζο Vo	מם
1806 AGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTG 1865	1746 IAIGICACGAAGACCACGITICAAAAGAACAGCICTTTTTCTACCGGAAGAGTGTCTGG 1805 	686 GCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGGTGCTCAGGTCTTTCTT	AGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGACACCGTCTGCGTGAGGAGATCCTG	566 AAGCTCTCCTGCAAGAGCTGAACATGAACATGAACGTGCGGAACTGCGCTTGGCTGCGC	6 CACAACGAACGCCGCTTCCTCAGGAACACCAGAAGTTCATCTCCCTGGGGAAGCATGCC 1	. 42 01	1387 - ACACAGACCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGGCAGGTG 1445	14	67 AGTGCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGACCTGCGGTCACCCCAG	94	35	88 75	7 8	968 GCACCACGCGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCTTGTCC 1027	908 CACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCACTCCCACCCA	848 GCGTGGACCGAGTGACCGTGGTTCTGTGTGGTGTCACCTGCCAGACCCGGCGAAGAAGC 907	788 TGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGGAAGAC 847	718 GAGGCGCGGGGGCAGTGCCAAGTCTGCCGTTGCCCAAGAGGCCCCAGGCGTGGCGC 777

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SUMMARIES

ALIGNMENTS

SOURCE ORGANISM REFERENCE AUTHORS TITLE JOURNAL FEATURES	RESULT 1 AR104587 LOCUS DEFINITION ACCESSION VERSION
Unknown. Unknown. Unclassiied. 1 (bases 1 to 4015) Cech,T.R. and Lingner,J. Telomerase Patent: US 6093809-A 224 25-JUL-2000; Location/Qualifiers	AR104587 4015 bp DNA Sequence 224 from patent US 6093809. AR104587 AR104587.1 GI:12817295
	linear
	PAT 14-FEB-2001

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Db 413 CGCAGCTACCTGCCCAACACGGTGACCGACGACGACGACGACGACGACGACGACGACGACGAC

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GACGCTGACTGCCCTGGAGGCCGCAGCC 3360
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                                                                                                                                           sccacrccreeeercacrcaeeacaecc 3352
                      CTGGACTGATGGCCACCC 3411
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DNA 67.) 1, linear PAT 17-DEC-2001

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1 GAGCTGTTCGGAAGCAGAGGTCAGGCAGCCATCGGGAAGCCAGGCCCGCCTGCTGACGTCC 1	dd	CGTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCG 780	721 773
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1 (bases 1 to 4015)
Thomas, R.S., Jochimu, R., Toru, N., Karen, B.C., Gr
Calvin, B.H. and William, H.A.
Human telomerase catalytic subunit promoter
Patent: JP 199923177-A 1 21-SEP-1999;
JERON CORP, UNIVERSITY TECHNOLOGY CORP
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   GAACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCG
                                                                    GCTGCCACTCAGGCCCGGCCCCCCCCCACGCTAGTGGACCCCGAAGGCGTCTGGGATGC
                                                                                                                                     GTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGC
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61 GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTG
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CC C12N1/19,C12N1/21,C12N5/10,C12N9/12,C12P21/08,(C12N1/19, PC C12R1:84),

CC C12R1/21,C12R1:19),(C12N9/12,C12R1:19),(C12N9/12,C12R1:84),

PC (C12N9/12,C12R1:91),C12N15/00,A61K37/64,C12N5/00 CC Strandedness: Single;

CC Topology: Linear;

FH Key Location/Qualifiers

FT CDS 56. 3454.
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GTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGC
                                                                                                                                             CTGCTGCGCCGCGTGGCGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTT
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C12N15/09, A61K31/70, A61K38/55, A61K39/395, A61K39/395, A61K48/00,
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/mol_type="genomic DNA"
/db_xref="taxon:32644"
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2813 GTTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGGCCTGCTGGTGCTGGATACCCGGACCTACTCCAGCCTATGCCCGGACCTCCATCAGAGGCGAGTCTCACC 2880	Q y	1733 TTCTTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGT 1792	рь
761 GTTCAGATGCCGGCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGTGCTGGATACCCGGACC 2	. Q		8 8
2701 IIGCGGAMGACHGIGGIGAACTICCCIGIAGAAGACGAGGCCCTGGGTGGCACGGCTTTT 2812 2753 TTGCGGAAGACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTT 2812	9d \$2	1621 ATCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAAGGTCT 1680	£ 8
THE TRANSPORT OF THE PROPERTY	? B &	1561 CTGCGCAGGAGCCCAGGGGTTGGCTGTGTTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAG 1620	₽ &
33 GACGGAGTCCTTCCTCGACGTCCCACGTCCCTGACGTGACGTGACGTGACGTGAGCTGACGTGAGCTGACCTCACCTACCCAC	S B X	1501 CATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGACTGCGCTTGG 1560	\$ \$
21 C18C1C18CAGCCIGIGETIACGGCGACCATGGAGAACAAGCTGTTTGCGGGGATTTCGGCGG 73 CTGCTCTGCAGCCTGTGCTACGGCGACCATGGAGAACAAGCTGTTTGCGGGGGATTTCGGCGG 74 C18C1C18CTTTGCAGCCTGTGCTACGGCGACAACAAGCTGTTTTGCGGGGGATTTCGGCGG	S B 8	1441 TCCAGGCACAACGAACGCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAG 1500	B 8
	5 B &	1381 CAGGIGTACGGCTICGTGCGGGGCCTGCCTGGGCTGGTGGCCCCAGGCCTCTGGGGC 1440	B 8
THE TANGENT OF THE PROPERTY OF	. D. K	1321 GAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCAGCAGCAGCAGCACCTGG 1380	B 8
1 CIVAGOANACCASCCUCTIONOSAN SECURICA CANCASCANOCICCICCITAN SECURICAN CANCASCANOCICCICCITAN CONTROL CON	5 B 8	1261 ACCCCAGCAGCCGGTGTCTGTGCCCGGGAAAAGCCCCAGGGCTCTGTGGCGGCCCCCGAG 1320	B 8
3 3 6	5 8 8	1201 CACGCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGGAGCTGCGGTC 1260	DB 63
21 1903190910931A19003199100A93A9990090C0A13A93A8091009CAA9990C1110	5 B %	1141 CCCCGCCTGCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAAC 1200	B 8
1 AICCCCAGGACAGGICACGAGGICALAGACACAGAACACCAGAACACAGAACACGAGACACGAGAACACGAGACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACGAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAACACAGAAACACACAGAACACAGAACACACAGAACACAGAACACAGAACACAGAACACAGAACACACAACA	5 8 8	1081 CTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCCGCAGGTTG 1140	ρ γς
53 CAGGACCCGCCGGACGGACGGACGGACGAGGAGGAGGAGG	5 B 4	1021 CAGCTGCGGCCCTCCTTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1080	B 8
TO A CARDO CENTRAL CALL AND CONTROL OF THE CONTROL	5 8 8	961 CCTTGTCCCCCGGTGTACGCCGAGAGCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAG 1020	P 64
33 GCACTGTTCAGCGTGCTCAACTACGAGCGGGCGCGGCCCCGGCCTCCTGGGCCCCCCCC	} B &	901 GGCCGCCAGCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACG 960	p Q
921 GLOGANG CANANGELICUS ANAMAGANAMAGAS CURIOCUSIC LACCITUM GOSTORAS A SANGER ANAMAGAN ANAMAG	5 B X	841 GAAGAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCCATCCGTG 900	B 8
THE TRACES OF THE TRACES OF THE TRACES OF THE CASE OF THE TRACES OF THE	Q	781 GGCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGTG	g Sg
THE TRANSPORT OF THE TR) B &	721 CGTGGCGCTGCCCCTGAGCCGGAGCGGACGCCGTTGGGCAAGGGGTCCTGGGCCCAACCCG 780	Db Qy
41 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 1	אס פע	661 GGTGCGAGGAGGCGCGGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAAGG 720 	D Qy

Query Match Best Local Similarity 100.0%; Score 3411; DB 6; Length 4015; Best Local Similarity 100.0%; Pred. No. 0; Marches 3411; Conservative 0; Mismatches 0; Indels 0; Gaps 0; 1 GCGATGCCGCGCTCCCCGCTTGCCGAGCCTCCCTGCTGCGCAGCCACTACCGC 60	ORGANISM Unclassified. ORGANISM Unclassified. REFERENCE 1 (bases 1 to 4015) AUTHORS Morin,G.B. TITLE Human telomerase catalytic subunit variants JOURNAL Patent: US 6337200-A 1 08-JAN-2002; FEATURES LOCATION/Qualifiers Source /organism="unknown" ORIGIN ORIGIN	RESULT 4 AR182221 AR182221 LOCUS AR182221 APPROVED AR182221 APPROVED AR182221 VERSION AR182221 VERSION AR182221,1 GI:20225137 KEYWORDS	Qy 3361 AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 3411	Qy 3301 CAGACGCAGCTGAGTCGGAAGCTCCCCGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCC 3360	Qy 3241 CTCAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCGTGGGGTCACTCAGGACAGCC 3300	Qy 3181 GGCGCCGGCCGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTG 3240	QY 3121 GCCTCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAG 3180	Qy 3061 CCATTICATCAGCAAGTITGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACG 3120	Qy 3001 AACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTC 3060	Qy 2941 CTGAAGTGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACC 3000	Qy 2881 TTCAACCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGG 2940	Db 2873 CTGGAGGTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACC 2932
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	Qy 204 Db 209 Qy 210 Db 215	Db 1973 Qy 1981 Db 2033	р Р		Db 1733 Qy 1741 Db 1793	16 16	Qy 15 Db 16 Qy 16	Qy 15 Db 15	Oy 144	Oy 138 Db 143	QY 13	Qy 12 Db 13	Db 12
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541 GCTGCCACTCAGGCCCGGCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGC 600	421 CTGCTGCGCCGCGTGGGCGACGACGTGCTGCTTCACCTGCTGCTGCACGCTGCTGCGCTCTTT 480	301 GGCTTCGCGGTGCTGGACGGGGCCCCCCGGGGGGCCCTTCACCACCACCACCAGCGTG 360	181 TGGANGENGGECCECCECCECCECCECTTCCTTCCGCCAGTTCTTCCTTCAAGGAG 240	$\omega \mapsto \omega$	1 GCGATGCCGCGCGCGCTCCCCGCTGCCGAGCCGTCCCTGCTGCTGCAGCCACTACCGC 60	100.0%; Score 3411; DB 6; Length 4015; al Similarity 100.0%; Pred. No. 0; 3411; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	e 14015 /organism="unknown" /mol_type="genomic DNA"	Gaeta,F.C.A. Dendritic cell vaccine containing telomerase reverse transcriptase for the treament of cancer Patent: US 6440735-A 1 27-AUG-2002;	Unknown. Unknown. Unclassified. 1 (hase 1 to 4015)	AR224455 Sequence 1 from patent US 6440735. AR224455 AR224455.1 GI:23333293	
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	GG 2940	2881 TTCAACCGCGGCTTCAAGGCTGGGAAGAACATGCGTCGCAAACTCTTTGGGGTCTTGC	8
	CC 2932	2873 CTGGAGGTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGGCGACTCTCA	
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	 CAC 2692	2633 GACGGGTGCTCCTGCGTTTGGTGGATTTCTTGTTGGTGACACCTCACCTCACCC	밁
_	AC 2640	SB1 GACGGGCTGCTCGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACC	8
	 GG 2632	2573 CTGCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCG	밁
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	 AC 2392	2333 AAGAGCCACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCA	Дb
	AC 2340	CCACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGAC	8
	N	2273 TGCGTGCGTATGCCGTGGTCCAGAAGGCCCATGGGCACGTCCGCAAGGCCTTT	4
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	CC 21	2093 GTGCTGGGCCTGGACGATATCCACAGGCCTGGCGCACCTTCGTGCTGCGTGCG	망
	CC 2100	TGCTGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGTGTGCG	9
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Cech, T.R., Lingner,J., Nakamura,T., Chapman,K.B., Morin,G.B., Harley,C.B. and Andrews,W.H.
Antisense compositions for detecting and inhibiting telomerase reverse transcriptase
Patent: US 6444650-A 1 03-SEP-2002;
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333 AAGAGCCACGTCTTACCTTGACAGACCTCCAGCCGTACATGCGAGCAGTTCGTGGCTCAC 341 CTGCAGGAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCCTGAAT	& B :	1201 CACGCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTC 1260	Ωу
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CAGSACCACGCCCCCTGAGCTGTACCTTTTGTCAACGTGAATGTGAGAGCGCGGGTACGACCACGACCCCCGCCCTGAGCTGTACCTTTTGTCAACGTGGAACGACGAGCGCGTTACCTTTTGTCAACGTGGACGAGCACGCCGGCTTACCTTTTGTCAACGTGGATGTGACGACGCGCGTTACCTTTTTTTCAACGTGGATGTGACGACGCGCGTTACCTTACCTTACCTTACACTTGAACACTACACACAC	5 8 8	1021 CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1080	B &
041 GIGCIGGGCCIGGACGATATICCACAGGGCCAGGGGCACCITCGTGCTGCGGGGGGGCGAGCAGGGGGGGGGG	5 B 5	961 CCTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAG 1020	β δ
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AGACTICGCTICATICCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTC 192 AGACTICGCTTCATCCCCAAGCCTGACGGGCTGCGGCCCGATTGTGAACATGGACTACGTC 197 AGACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCCGATTGTGAACATGGACTACGTC 197	D 59	781 GGCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGTG	4g VQ
AGCTTSTCGGAAGCAGAGGTCAGGAAGCATCGGGAAGCCAGGCCCGCCC) D Q	721 CGTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCAACCCG 780	B 8
GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGGAAGAGGGTGCAGCTGCGG 180	Qy Db	GGTGCGAGGAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGGGGTGCGAGAGAGGCCCAGGGTGCGAGAGGAGGCCCAGGGTGCCGAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGGCCCAAGAGTGCCGAAGAGTCTGCCGTTGCCCAAGAGGCCCAAG	B &
	QY Db	601 GAACGGGCCTGGAACCATAGCGTCAGGAGGCCGGGGTCCCCTGGGCCTGCCAGCCCCG 660	B 63
ATCCTGGCCAAGTTCCTGCACTGGCTGAATGAGTGTACGTCGTCGAGCTGCTCAGGTCT	Db Qy	541 GCTGCCACTCAGGCCCGGCCCCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGC 600	g d
CTGCGCAGGAGCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGCTGCGAGGAGCACGAGGAGCACCACAGGAGCACAGGAGAGAGAGAGAGCACGAGAGAGCACGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGA	Db Qy	481 GTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGC 540	Qy db
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TICAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGAAG) B S	361 CGCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGCGGGGGGGG	95 55
CAGGTGTACGGCTTCGTBCGGGGCTGCCTGCGCCGGCTCGCCCCCAGGCCTCTGGGGC 14	Q da Q	301 GGCTTCGCGCTGGACGGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCACCAGCGTG 360	B &
1321 GAGGAGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCÁCAGCAGCCCCTGG 1380	Qy dd	41 CTGGTGGCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTC 30	4G VQ
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ley,C.B. and Andrews,W.H.
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                       TGCGAGGAGGCGCGGGGGGCAATGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGG 720
                                                                                                                                                                         TIGCCACTCAGGCCCGGCCCCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGC
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                                                                                                    ACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCG 660
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1673 ATCCTGGCCAAGTTCCTGCACTGGCTGATGAGATGAGCTCCTCTTTTCTACCGGAAGAGT 1740		GIGCAGGAGCTGAGGAAGAAGATGAGCGCAGGCCTCTGGGGAAG	321 GAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCACCAGCACCCTGG	261 ACCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAG 1	1141 CCCGCCTGCCCCAGCGCTACTGCAAATGCGGCCCTGTTTCTGGAGCTGCTTGGGAAC 1200	1 CTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTG 1	1013 CCTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAG 1072 1021 CAGCTGCGGCCTCCTTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1080	GGCCGCCAGCACCACGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACG 1 CCTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAG 1	AGAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACCCA?	721 CGTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCG 780
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181 TGGGACGCACGGCCCCCCCCCCCCCCCCTCCTTCCGCCAGGTGTCCTGCCTG	121 CAGCGCGGGGACCCGGCCGGCTTCCGCCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGC	- E1 GAGETECTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTG 120	1 GCANTGÉCGCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGC 60	y Match 100.0%; Score 3411; DB 6; Length 4015; Local Similarity 100.0%; Fred. No. 0; hes 3411; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	ወ		3	Sequence 3 from patent US 6331399. AR263555 AR263555.1 GI:28075300	4015	3361 AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 3411	3301 CAGACGCAGCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCC 3360	3241 CTCAAGCTGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCC 3300	3181 GGCGCCGGCCGCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTG 3240	3121 GCCTCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAG 3180	3061 CCATTTCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACG 3120	3001 AACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTC 3060	2941 CHARAGHETCACAGCCHETTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCAGC 3000	933 TICAACCGCGGCTTCAAGGCTGGGAAGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGG 2
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1261 ACCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAG	53 01	ω ⊢	. ω -	021	ωμ	901 GGCCGCCAGCACGCGGGCCCCCCATCĆACATCGCGGCCACCACGTCCCTGGGACACG	841 GAAGAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCATCCGTG	781 GGCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCC	721 CGTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCG	661 GGTGCGAGGAGGCGGGGGGCAGTGCCAGGCGGAAGTCTGCCGTTGCCCAAGAGGCCCAGG	601 GAACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCCTGCCAGCCCCG	541 GCTGCCACTCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGC	481 GTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGC	421 CTGCTGCGCCGCGTGGGCGACGACGTGCTGGTTGACCTGCTGGCACGCTGCGCGCTCTTT	361 CGCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGGGAGCGGGGCGTGGGGGGTTGGGGGGTTG	301 GGCTTCGCGCTGCTGGACGGGGGCCCCCGGAGGCCTCCACCACCACCACCGTG	241 CTGGTGGCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGGAAGAACGTGCTGGCCTTC	233 TGGGACGCACGGCCCCCCCCCCCCCCTCCTTCCGCCAGGTGTCCTGCCTG

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61 13	CACGTCCGCAAGGCCTTC 2332 CGACAGTTCGTGGCTCAC 2340 CGACAGTTCGTGGCTCAC 2392	5 5 B
3301 CAGACGCAGCTGAGTCGGAAGCTCCCGGGGAACGACGCTC	2213 ATCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCATCAACCCCAGAACACGTAC 2272 QY 2221 TGCGTGCGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTC 2280 Db	S B
3241 CTCAAGCTGACTCGACACCGTGTCACCTACGTGCCACT	161 ATCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCAACCCCCAGAACACGTAC 2	, VQ
3181 GGCGCCGCCGGCCCTCCGAGGCCGTGCAGTGCAGTGCAG	QY 2101 CAGGACCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGCGCGTACGACACC 2160	B 8
	2041 GTGCTGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGGGGCC 2100	φ 2 9
13 CCATTTCATCAGCAAGTTTGGAAGAACCCCACATTTT	1981 GCACTGTTCAGCGTGCTCAACTACGAGCGGGGCGGCGCCCCGGGCCTCCTGGGGGGCCTCT 2040	g VQ
053	1921 GTGGGAGCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAG 1980	g &
93	1861 AGACTCCGCTTCATCCCCAAGCCTGACGGCCTGCGGCCGATTGTGAACATGGACTACGTC 1920	g Qy
4 ω i	1801 GAGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	φ Q γ
73	1741 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 1800	용 상
21 13	1681 TTCTTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGT 1740	4g 4g
753	1621 ATCCTGGCCAAGTTCCTGCACTGACTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCT 1680	Qy db
693	1561 CTGCGCAGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAG 1620	Qy db
33	1501 CATGCCAAGCTCTCGCTGCAGGAGCTGGACGTGGAAGATGAGCGTGCGGGGACTGCGCTTGG 1560	do do
	1441 TCCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAG 1500	9d V2
13	1381 CAGGTGTACGGCTTCGTGCGGCCTGCCCTGCGGCTGGTGCCCCAGGCCTCTGGGGC 1440	g &
401	Qy 1321 GAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGG 1380 Db 1373 GAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGG 1432 C.	Qγ

CTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACC	Дb
361 AACCCGGCACTGCCCTCAGACTTCAA	Ş
AGACGCAGCTGAGTCGGAAGCTCCCGGGGACGCGACGCTGACTGCCCTGGAGGCCGCAGC	망
301 CAGACGCAGCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCCGCA	Ą
CAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGC	-
3241 CTCAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCC 3	8
233 GGCGCCGCCGGCCCTCCGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTC	
TCCT	YQ.
173 GCCTCCCTCTGCTACTCCATCCTGAAAGCCAAAGAACGCAGGATGTCGCTGGGGGG	рb
121 GCCTCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGG	
113 CCATTTCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACAC	
1 CCATTTCATCAGCAAGTTTGGAAGAACCCCACATTTT	,
053 AACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCT	дb
CATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTG	
993 CTGAAGTGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCAC	ф
941 CTGAAGTGTCACAGO	8
2933 TTCAACCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGG 29	
881 TTCAACCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGC	
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53 TIGCGGAAGACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTT	-
701 TIGCGGAAGACAGIGGIGAACITCCCIGTAGAAGACGAGGCCCIGGGIGGCACGGCTTT	
2693 GCGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAAC 27	Вb
641 GCGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAA	
633 GACGGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCA	
581 GACGGGCTGC	Ş
2573 CTGCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGG 26	Db
GCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCG	Ş
2513 ATCAGGGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGGTCCATCCTCTCCACG 25	-
461 ATCAGGGGAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCAC	Q
2453 GAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGC 2	•
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601 GAACGGGCTGGAACCATACGTCAGGCAGGCAGGCTCCCCTGGGCCTGCCAGCCCCG 660	481 GIGCTGGIGGCICCCAGCTGCGCCTACCAGGIGTGCGGGCCGCCGCIGTACCAGGICGGC 540	361 CGCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGGGG	241 CTGGTGGCCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTTGGCTTC 300	121 CAGCGCGGGACCCGGCGGCTTTCCGCGCGCTGGTGGCCAGTGCCTGGTGTGCGTGC	1 GCGATGCCGGCGCTCCCCGCTGCCGAGCCGTGCCCTGCCTG	Match 100.0%; Score 3411; DB 6; Length 4015; cocal Similarity 100.0%; Pred. No. 0; s 3411; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	AR265996.1 GI:29694842 Unknown. Unknown. Unknown. Unclassified. 1 (Dases 1 to 4015) Monia, B.P., Gaarde, W.A., Freier, S.M. and Wancewicz, E. Antisense modulation of TERT expression Patent: US 6492171-A 3 10-DEC-2002; Location/Qualifiers 1. 4015 /organism="unknown" /mol_type="genomic DNA"
Q	& B & B &	40 A0 A0 A0 A0	\$ \$ \$ \$	B 64 B 65	\$ \$ \$ \$ \$ \$ \$ \$	ß &	2
1733 TTCTTTTATGTCACGGAGACCACGTTCAAAAGAACAGGCTCTTTTTTCTACCGGAAGAGT 1792 1741 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGCACTTGAAGAGGTGCAGCTGCGG 1800 1793 GTCTGGACCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 1852 1801 GAGCTGCGAAAGCATTGCAAAGCATTGGAATCAGACCAGGCCCTTGAAGAGGGTCAGCACTTGAAGAGGTTCC 1860 1801 GAGCTGTCGGAAAGCACAGGCAGCATCGGGAAGCCAGGCCCTGCTGACGTCC 1860 1811 GAGCTGTCGGAAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCTGCTGACGTCC 1912 1853 GAGCTCCGCTTCATCCCCAAGCCTGACGGCCGGATTGTGAACATGGACATGCGTC 1912	1621 ATCCTGGCAAAGTTCCTGCACGGCTGTATGAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTT	- ω - μ - μ	1321 GAGGAGACACAGACCCCCGTGCTGCTGCAGCTGCTCGCCCAGCACCACACAGCAGCCCCTGG	ωμωμ	081 133 141 193	021 073	B33 GCAGGACGCGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGCAG

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                                                                                                                                                                                                                                CAGCGCGGGAACCCGGCGCTTTCCGCGCGCGCTGGTGGCCAGTGCCTGGTGTGCCC 180
                                                                                                                                                                                                                                                                                          GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCCTGGGGGCCCCAGGGCTGGCGGCTGGTG
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                                                                CTCAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCC
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1373 GAGGAGACACAGACCCCGTCGCCTGGTGCAGCTG	Qy 1261 ACCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAGCCCCA	01 CACGCGCAGTGCCCCTACGGGGTGCTCCTCAAG	Qy 1141 CCCCGCCTGCCCCAGCGCTACTGGCAAATGCGGCCCTTD	.081 CTCGTGGAGACCAT	1021 CAGCTGCGGCCCTTCCTACTCAGCTCTCTGAGGC	Qy 961 CCTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCT	Qy 901 GGCCGCCAGCACCACGCGGGCCCCCATCCACATCGCGGCCACCACCACGT	검무검	Qy 781 GGCAGGACGGGTGGACCGAGTGACCGTGGTTTCTGTGT	Qy 721 CGTGGCGCTGCCCTGAGCCGAGCGGACGCCCGTTGG	Qy 661 GGTGCGAGGAGGCGCGGGGGGCAGTGCCAGCCGAAGTCTGC	CGGGCCTGGAACCATAGCGTCAGGG CGGGCCTGGAACCATAGCGTCAGGG	Qy 541 GCTGCCACTCAGGCCCGGCCACACGCTAGTGGACCCC	Qy 481 GTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGC	Oy 421 CTGCTGCGCCGCGTGGGCGACGACGTGCTGGTTCACCT	Qy 361 CGCAGCTACCTGCCCAACACGGTGACCGACGACTGCG	Dy 301 GGCTTCGCGCTGCTGGACGGGGCCTCCCCGAGGCCTTCACCAGO 01
143	CCCCCGÁG	TTGCGAGCTGCGGTC 1260	QY	TG 114	a=8	OY	CCCTGGGACACG 960	CACTCCCACCCATCCGTG 900	CTGTGTGGTGTCACCTGCCAGACCCGCC 840	TIGGGCAGGGGTCCIGGGCCCACCCG 780	CGTTGCCCAAGAGGCCCAGG 720	TGGGCCTGCCAGCCCCG 660	Qy	CGCCGCTGTACCAGCTCGGC 540	Qy TACCTGCTGGACGCTGCGCGCTCTTT 480	Qy CGGGGGAGCGGGGGCTG 420	GTG 360
2453 daddchadchdriddccrictricdacdrictriccriacdcriccatordridchadchadchadchadchadchadchadchadchadcha	2393 CTGCAGGACCAGCCCGCCTGAGGGATGCCGTCGTCATCGAGCAGAGCCTCCTCCCTGAAT 2401 GAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACCACGCCGTGCGC	2281 AAGAGCCAGTGTTACCTTGACAGAGCCTCAGCGTAATGCGACAGTTCGTGGCTCAC 2281 AAGAGCCACGTCTTACCTTGACAGACCTCCAGCCTTACATGCGACAGTTCGTGGCTCAC 2333 AAGAGCCACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTCCTCCTCAC 2334 CTGCAAGAAGACCAGCCTGAAGGGAAGACCTCCTCCAGCAGAGAGCTCCTCCCTGAAT	21 73	61 13	2101 CAGGACCCGCCCGAGCTGTACTTTGTCAAGGTGGATGTGACGGCGGGCG	2041 GTGCTGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGTGCTGCGGGCCCCCTGGGCTGCGTGCGTGCGTGCGGGCCGCGCGCGCGCGCGCGCGCTCGTGCGTGCGTGCGGGCGGC		21 73	1861 AGACTCGGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTC		741 793	681 733	621 673	561 613	: W 2	41 93	ü

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AR393084 ON Sequence N AR393084 AR393084 . Unknown. SM Unknown.	3361 AACCC 3413 AACCC	3301 CAGAC 3353 CAGAC	3241 CTCAA 3293 CTCAA	3181 GGCGC 3233 GGCGC	3121 GCCTC	3061 CCATT	3001 AACAT 3053 AACAT	2941 CTGAAG 2993 CTGAAG	2881 TTCAA 2933 TTCAA	2821 CTGGA 2873 CTGGA	2761 GTTCA 2813 GTTCA	2701 TTGCG 2753 TTGCG	2641 GCGAAAAC 2693 GCGAAAAC	2581 GACGGG 2633 GACGGG	2521 CTGCT 2573 CTGCT	 2513 ATCAG
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15 bp mRNA 3617110.	AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 	CAGACGCAGCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCC 	CAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCC 	coccoccogecoritigocoriccaaggecoffgaatagctgfgccaccaagcaffcctg 	CCATCCTGAAAGCCAAGAACGCAGGATGTCGCTGGGGGCCAA	CCATTICATCAGCAAGTITGGAAGAACCCCACATTITTCCTGCGCGTCATCTCTGACAC 	CTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTC 	CTGAAGTGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACC 	TTCAACCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGG 	CTGGAGGTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACC 	GTTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACC 	TTGCGGAAGACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTT 	$\alpha - \alpha$	GACGGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCAC 	TGCTCTGCAGCCIGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGG 	
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-DEC-2003		C 3360	C 3300	G 3240 - 3292	G 3180 G 3232	G 3120 G 3172	C 3060	C 3000	∺ 2940 2992	C 2880	C 2820 C 2872	T 2760	.C 2700 .C 2752	C 2640 C 2692	ig 2580 2632	 G 2572
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721 CGTGGCGCTT 773 CGTGGCGCTT 7781 GGCAGGACG 781 GGCAGGACG 781 GGCAGGACG 833 GGCAGGACG	53	593 GCTGCC	533 GTGCTGC	473 CTGCTGC	413 CECAGC	353 GGCTTC	293 CTGGTGC 301 GGCTTCC	233 TEGGACO	173 CÁGCGC 181 TGGGAC	113 ĠĀĠĠŤĠœ 121 CAGCGCœ	53 GCGATG		ch simi	0	Harley,C Cells im Cells screen	Unclassified. 1 (bases 1 t
SCHOOLGCGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	GAGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	ACTCAGGCCCG	TEGETECEAG ACTCAGGCCCG	TGCCGCGTGGG	TACCTGCCCAA	SCECTECTEGA TACCTECCCAA	GCTGCTGGA	GCACGGCCGCC	cadodededaaccoddo Teggacecacegoo	créccécréec eggacccego 	CIGCGCGCICC	gervative	100.0%;	Location/Qualifiers 1. 4015 /organism="unknown" /mol type="mrna"	.B. and And nortalized sening	Eied. 3 1 to 4015
GAGCCGGAGCGAACCGAACCGAACCGAACCGAACCGAA	TAGCGTCAGGC	GCCCCCGCCA TAGCGTCAGG	CTGCGCCTAC	CGACGACGTGCCTGCCCTGCCCTACC	CACGGTGACC	CACGGGCCCCCC	cideriedecteaaerecidaaeaecreriedaaecececeaaeaaeaaaeaaeaaeaeaeaaeaaeaaeaeaeaeaeae	CCCCGCCGCC	CGGCCGCTTTCCGCGCGCTGGTGGCCCAGTGC CGCCCCCGCCGCCCCCTCCTTCCGCCAGGTG	cacerreer Georreec 	CCGCTGCCGA CACGTTCGTG	0; Mismatches	ee; Score	Location/Qualifiers 14015 /organism="unknown" /mol type="mRNA"	Harley C.B. and Andrews W.H. Cells immortalized with telomerase drug screening Datest 1 100 SEB-2001) Nakamii
ACCCERNICA 	aaggccggggT AGCCGAAGTCT	CACGCTAGTGC CACGCCGGGGT	CACGCTAGTGG	CIGGITCACCI	SACGCACTGCC	GGGGGCCCCC	TGCGAGCGCGC	CCTCCTTCCG TGCGAGCGCGG	scácrádiád cccrccrrcco	ricaracadaceceradaaceceaaceaceaceaceaceaceaceaceaceaceace	3CCGTGCGCTC CGGCGCTCGGG	atches C	3411; DB 6		H	
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CETTGGGGTTGCCCCTGAGCCGAAGCGGAACGCCGTTTGGGCAGGGTCCTTGGGCAACCCGCGTTTGGGCAGGGTCCTTGGGCAACCCGCGTTTGGGCAGGGTCCTTGGGCAACCCGCGTTGGGCAGGGTCCTTGGGCAACCCGGTTGGGCAGGGTCCTTGGGCCAACCCGGTGGGCCCCTTGAGCCGGAAGCGGACGCCGTTGGGCAAGGGGTCACCTGGCCAGACCCGCGGGGGAACCGAGACCCGCGAACCGGAACCCGAGACCCGCGCGGAGAACCGAGAACCCGAGACCCGCCG	GAACGGGCCTGGAACCATAGCGTCAGGGAAGGCCGGGGGTCCCCCTGGGCCTGCCAGCCCCGGGGTCCCCCTGGGCCCAGGCCCAGGCCCAGGGCCCAGGGCCCAGGGGCCCAGGGGCCCAGGGGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGG	GCTGCCACTGAGGCCCGGCCCCCCCCACACGCTAGTGAGCCCGAAAGGCCTGGGAATGC GAACGGGCCTGAAACATTGAGGAAGGCCGGGAAGGCCTGCAGAATGC GAACGGGCCTGAAACATTAGCGTCAGGGAAGGCCGGGTCCCCTTGGGCCAGCCA	GTGCTAGTGGCTCCAAGCTGCGCCTACAGGTGTGCGGCCGCCGCTGTACCAGCTCGGC GCTGCCACTCAGGCCCCGGCCCACACGCTAGTGGACCCGAAGGCGTCTGGATGG	CTGCTGCGCCGCGTGGGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGC	CTGCTGCGCCGCGTGGGCGACGACGACGTGGCTGGCTGCTGGCTG	GECHACTRECTECTE AND GEOGRAPHICA CONTROL OF THE CONT	cidairadecectadariacitacadadascristacadadescedadacadadadadatacitacitetetec gaetitegaescrisetadadagaescegagagaescegagaescristadagaestagaestagaestagaestagaestagaestagaestagaestagaestagaest	TGGGACGCACGGCCGCCCCCGCCGCCCCCTCCTTCCGCCAGGTGTCCCTGCCTG	CAGCGCGGGGACCCCGGCGGCTTTCCCGCGCGCTGGTGGCCAGTGCCTGGTGTGCGTGC	@AGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTG CAGCGCGGGGACCCGGCGCTTTCCGCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGC	GCGATGCCGCGCGCTCCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCTGCAGCCAGC	11; Conservative 0; Mismatches 0; Indels 0; Gaps GCGATGCCGCGCGCTCCCCGCTGCCGAGCCAGCCTCCCCGCTGCTGCTGCGCAGCCAGC	4015;		ptase for	Morin.G.B.
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2881 TT 2933 TT	3—0 ·	861 AGACTCCGCTTCATC	
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QY 2761 GTTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGATACCCGGACC	AGAGT 1	1681 TTCTTTTATGTCACGGAGACCACGTTTCAAAAGAACA	
QY 2701 TTGCGGAAGACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTT	CTCAGGTCT 168 CTCAGGTCT 173	621 ATCCTGGCCAAGTTCCTGCA	
OY 2641 GCGABARCCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATTGGCTGCGTGGTGAAC	CCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAG 1620	1561 CTGCGCAGGAGCCCAGGGGTTGGCTGTGTTCC	
2581 GA 2633 GA	CTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGG 1560	1501 CATGCCAAGCTCTCGCTGCAGGAGCTGACGTG	
2521 2573	ACACCAAGAAGTTCATCTCCCTGGGGAAG 1500	1441 TCCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAA	
2461 AI - 2513 AI	cescresiscoccaescom 	1381 CAGGTGTACGGCTTCGTGCGGGCCTGCCTGCC	
<u>9</u> —9	9-9	1321 GAGGAGACACAGACCCCGTCGCTGGTGCAG	
2393 C1	AGCCCCAGGGCTCTGTGGCGGCCCCGAG 1320	1261 ACCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGG	
2281 AJ 2333 AJ	TCAAGACGCACTGCCGCTGCGAGCTGCGGTC 1260	1201 CACGCGCAGTGCCCCTACGGGGTGCTCCTCAA	
2273	GGCCCCTGTTTCTGGAGCTGCTTGGGAAC 1200	1141 CCCCGCCTGCCCCAGCGCTACTGGCAAATGCC	
2161 AT	TCCAGGCCTGGATGCCAGGGACTCCCCGCAGGTTG 1140	1081 CTCGTGGAGACCATCTTCTGGGTTCCAGGCC	
2101	TGAGGCCAGCCTGACTGGCGCTCGGAGG 1080	1021 CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGA	
2041 2093 G	CTTCCTCTACTCCTC	961 CCTTGTCCCCCGGTGTACGCCGAGACCAAGCA	
დ—დ	CATCGCGGCCACCACGTCCCTGGGACACG 960	901 GGCCGCCAGCACCACGCGGGCCCCCCATCCAC	
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Query Match Best Local Similarity 100.0%; Score 3411; DB 6; Length 4015; Best Local Similarity 100.0%; Pred. No. 0; Matches 3411; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Matches 3411; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 61 GAGGTGCCGCGCTGCCCGCTGCCGAGCCTGCTGCTGCGCAGCCACTACCGC 112 Qy 61 GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCCCAGGCCACTACCGC 112 Db 113 GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCCCAGGCCAGGCCACTACCGC 112 Qy 121 CAGGCGGGAACCCGGCGCCCCCGTTCGTGCGGCGCTTGGGCCCAGGCCTGGTGCCC 180 Db 173 CAGGCGGGAACCCGGCGGCGTTTCCGCGGGGCTGGTGCCCTGGTGGCGTGCCC 232 Qy 181 TGGGACGCACGGCCGCCCCCCGCGCGCCTCCTTCCGCCAGGTTCCTGCCTG	AR404030 LOCUS LOCUS LOCUS AR404030 AR404030 AR404030 AR404030 ARACESSION ARA	Db 3053 AACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCAGCTC 3112 Qy 3061 CCATTTCATCAGCAAGTTTGGAAGACCCCACATTTTTCCTGCGGTCATCTCTGACAGC 3120 Bb 3113 CCATTTCATCAGCAAGTTTGGAAGACCCCACATTTTTCCTGCGCGTCATCTCTGACAGC 3172 Qy 3121 GCCTCCCTCTGCTACTCCAGAAGCCCAAGAAACCCAAGATTTTTCCTGCGCGTCATCTCTGACAGC 3172 Qy 3181 GCCTCCCTCTGCTACTCCATCCTGAAAGCCAAGAAACGCAAGGATGTCGCTGGGGCCAAG 3232 Qy 3181 GGCGCCGCCGGCCCTCTGCCCTCTGCAAAGCCAAGAACGCAAGGATGTCCTGGGGCCAAG 3232 Qy 3181 GGCGCCGCCGGCCCTCTGCCCTCCGAAGACCCAAGAACGCAGGATGTCCTGGGGCCAAGCATTCCTG 3240
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Sequence 1 from Patent EP1108789.
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Quantitation of htert mrna expression
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LOCALION/Qualifiers
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AX552695
   Homo sapiens (human)
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                   GGTGCGAGGAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGG
                                                                                                                           GGTGCGAGGAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGAGCCCCAAG
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	8 8	Y 1801 GAGCTGTCGGAAGCAGAGCACAGCATCAGGCAAGCCAGGCCAGGCCCTGCTGACGTCC 1860	음 성
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Qγ	3001	AACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTC 3060
Db	3053	ACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTC 3112
γŞ	3061	CCATTTCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGGGCGTCATCTCTGACACG 3120
Db	3113	CCATTICATCAGCAAGTITGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACG 3172
Ϋ́O	3121	GCCTCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAG 3180
Db	3173	GCCTCCCTCTGCTACTCCATCCTGAAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCCAAG 3232
Ş	3181	GGGGCGCCGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTG 3240
Db	3233	GEGECEGECGECTETGECETTCCGAGGCCGTGCAGTGTGTGCCACCAACCAATTCCTG 3292
Ϋ́O	3241	CTCAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGGC 3300
DЬ	3293	CTCAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCC 3352
Ϋ́	3301	CAGACGCAGCTGAGTCGGAAGCTCCCGGGGACGACGACGCTGACTGCCCTGGAGGCCGCAGCC 3360
Db	3353	CAGACGCAGCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCC 3412
γŞ	3361	AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 3411
용	3413	AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 3463

Search completed: March 1, 2004, 14:22:25 Job time : 8575.51 secs

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Result
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Copyright (c) 1993 - 2004 Compugen Ltd.
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Aaz007724 Human tel
Aaz200772 Human tel
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Aaz200724 CDNA enco
Aah45901 Human hTB
Aad46821 Human tel
Aba97534 Cancer ce
Acc58039 Human tel
Abz22474 Human tel
Abz22474 Human tel
Abz28391 Group III
Acc44482 Human tel
Abz18391 Group III
Aav72117 Human tel
Abz183711 Human tel
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Aav208150 Human tel
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Aav89424 Human EsT
Aaa29388 hEST7, a
Adc47060 Human tel
Aax18554 Human tel
Aax18554 Human tel
Aax18554 Human tel
Aax18554 Human tel
Aav224428 Human tel
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Human; telomerase reverse transcriptase; hTRT; diagnosis; prognosis; cell proliferation; cancer; ageing; ribonucleoprotein; ss.

Human telomerase reverse transcriptase encoding cDNA.

AAV22379;

13-AUG-1998 (first entry)

AAV22379 standard; cDNA; 3955 BP

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ALIGNMENTS

3 RESULT 1
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ID AAV22379
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XX AAV2
AC AAV2
XX Huma
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XX Huma
XX Celll
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XX Homo
XX Homo 数据数据数据 18-APR-1997; 25-APR-1997; 06-MAY-1997; 09-MAY-1997; 14-AUG-1997; 14-AUG-1997; Pure and recombinant human Telomerase Reverse Transcriptase and variants - are useful in the diagnosis, prognosis and treatment WPI; 1998-171633/16. P-PSDB; AAW46957. 01-OCT-1997; Andrews WH; (GERO-) (UYTE-) 01-OCT-1996; 08-APR-1998. GB2317891-A. Homo sapiens Cech TR, 14-AUG-1997; UNIV TECHNOLOGY CORP. GERON CORP Lingner J, 97US-00854050. 97US-00911312. 97US-00912951. 97US-00915503. 96US-00724643. 97US-00844419. 97US-00846017. 97GB-00020890 97US-00851843. Location/Qualifiers /product= "telomerase reverse transcriptase" Nakamura T, Chapman ä Morin GB, Harley CB; of cell

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is a modulator of hTRT, by detecting the change in hTRT recombinant CC protein or polynucleotide, on administration of the compound; (B) CC proparation of recombinant telomerase by contacting a protein preparation of hTRT with a telomerase RNA component; (C) detection of the hTRT RNA or CC protein in a sample by binding a relevant probe to the sample and CC detecting the complex formed or in the case of RNA detection, amplifying CC the product and correlating the presence of complex or amplification CC product with presence of hTRT in the sample, and (D) increasing the CC proliferation of a vertebrate cell by increasing hTRT expression; and (E) CC the use of an agent that causes an increase in cell vertebrate cell CC proliferation to create a medicament that inhibits ageing. A protein CC preparation of hTRT and the polynucleotide encoding hTRT can be used in CC preparation of hTRT and the polynucleotide encoding hTRT can be used in CC cancer. Inhibitors of telomerase activity can be used to treat conditions CC that are associated with high telomerase activity. A protein preparation con the polynucleotion of the preparation of the manufacture of medicament that the polynucleotion of the preparation of the manufacture of the manuf
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Matches 3411; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3955 BP; 648 A; 1353 C; 1251 G; 703 T; 0 U; 0 Other;
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RESULT 2 AAZ00724 ID AAZ0 Human telomerase catalytic domain DNA. AAZ00724; 06-OCT-1999 AAZ00724 standard; DNA; 4015 BP (first entry)

Telomerase; catalytic domain; human; quantitation; tumour cell; melanoma; body fluid; metastases; T-cell lymphoblastoma; chronic myeloid leukemia; acute lymphatic leukemia; melanoma; pulmonary carcinoma; colon cancer; breast cancer; ss.

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Homo sapiens.
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WPI; 1999-431408/37.

Quantifying tumor cells by amplifying mRNA encoding the catalytic subunit of telomerase.

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This is the nucleotide sequence of cDNA encoding human telomerase reverse transcriptase (hTRT, see AAY32090). Human telomerase is a target for diagnosing and treating diseases relating to cell proliferation and senescence, such as cancer, or for increasing the proliferative capacity
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Query Match
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Matches 3411
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The present sequence encodes a human telomerase reverse transcriptase (TRT) polypeptide. The protein is used in the method of the invention. The specification describes a method for activating a T lymphocyte comprising contacting the T lymphocyte with a dendritic cell that expresses a TRT peptide in the context of a MHC class I or MHC class I
                                                                                                                                                                                                                                                                                     Eliciting an in vivo immune response
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                                                                                                                                                                                             Disclosure; Fig 2; 26pp; English.
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//inote= "primer SYC1118 (AAH45905) binding site"
2342. .2437
complement(2345. .2374)
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  /bound moiety= "hybridisation probe CS3"
  /note= "AAH45908"
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Query Match
                                                           The present sequence is that of the hTERT gene encoding the catalytic subunit of the human telomerase, comprising 16 exons, which is useful in a method for quantitating hTERT mRNA. The method is useful for detecting the presence of beta-region (a 182 nucleotide region consisting of exons 7 and 8) of the hTERT-mRNA in a human sample for diagnosis and prognosis of cancer. The method provides an accurate measure of telomerase activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 exon
                                                                                                                                                                          Quantitating expression of mRNA encoding hTERT, the catalytic subunit of telomerase, as an indicator of cancer, by amplifying RNA using primers complementary to hTERT gene sequence and quantitating amplified products
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                        Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
                                                  by selectively measuring mRNA that encodes an active hTERT protein
                                                                                                                                                   Claim 1; Page 5-7; 29pp; English.
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3233 GEOGCCGCCGGCCCTCTGCCCTCCGAGGCCGTGCAGTGCCAGCCA	2153 CAGGACCCGCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGCGCGTACGACACAC	당 .
3181	2101	5 8
43 1	2041 GTGCTGGGCCTGGACGATATCCACAGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGCC 2	3 8
3113 CONTROCTORIOGNACIONAL ACCONTRATA CONTROCTORIOGNACION CONTROLOGNACION CONTROLOGNACIONI CONTROL	2033 GCACTGTTCAGCGTGCTCAACTACGAGCGGGCGCGCGCGC	문 성
3061 CCATTTCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACG	1973 GTGGGAGCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAG 2032	₹ B
3001 AACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTTCACGCATGTGTGCTGCAGCTC 3060	1921 GTGGGAGCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGGGTCTCACCTCGAGGGTCAAG	\$
291 CTGAAGTGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACC 3052	y 1861 AGACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTC 1920	유 성
	1801 GAGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	B 8
2873 CTGGAGGTGCAAGGCTACTCCAGCTATGCCGGACCTCCATCAGAGCCAGTCTCACC 2	1741 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 1800	유정
2813	1681 TYCTYTYTATGYCAGGAGACCAGGTTYCAAAAAAACAGGCTCTTTTTCTACCGGAAGAGT 1740	B &
2753 2761	1621 ATCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTTACGTCGTCGAGGTGCTCAGGTCT 1680 1673 ATCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTTACGTCGTCGAGCTGCTCAGGTCT 1732	, p. 15
2693 2701	1561 CTGCGCAGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCCTTCTGCGTGAGGAG 1620	, B &
2633 2641	1501 CATGCCAAGCTCTCGCTGCAGGAGCTGGAAGATGAGCGTGCGGAACTGCGCTTGG 1560	B 5
2573 2581	150 CAGGCACAACGAACGCCCCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAG 155	당
2513 2521	1433 CAGGTGTACGGCCTTGCGGGCCTGCCGCGGCTGGTGCCCCAGGCCTTGGGGCC 149	당 분 :
2461 ATCAGGGGCAAGTCCTACGTCCAGTGCCAGGGGGATCCCGCAGGGCTCCATCCTTCCACG	1373 GAGGAGGACACAGACCCCGTCGCCTGGCGCAGCTCCCGCCAGCACAGCACCCTGG 1432 1381 CAGGTGTACGGGTTCGTGCGGGGCTGCTGCGCCGGCTGGTGCCCCCAGGCCTCTGGGGG 1440	δ B
2401 GAGGCCAGCAGTGGCCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGC 2460	1321 GAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCAGCCCTGG 13	Q
2393	Y	유성
2333 AAGAGCCACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCAC	1201 CACGCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGGTC 1260	음 성
	1141 CCCCGCCTGCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAACTGCTTGGGAAC 1200	음청
2213 2221		D.
2161 ATCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGGCATCATCAAACCCCCAGAACACGTAC 2220	1073 CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCC	S B

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                                                                                                 Query Match
Best Local
                                                                                   Matches
                                                                                                                                                                                           are compatible for transplantation into human patients. The mammalian cell is inactivated homozygously for expression of alpha(1,3)galactosyltransferase (alpha1,3GT) gene and comprises a transgene for alpha(1,2)-fucosyltransferase (alpha1,2FT). It is useful for producing animal tissue with carbohydrate antigens that are compatible for transplantation into human patients. The present sequence is human telomerase reverse
                                                                                                                                               Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
                                                                                                                                                                               transcriptase (TERT) cDNA used in the invention
                                                                                                                                                                                                                                                                                                                                Disclosure; Page 33-34; 71pp; English.
                                                                                                                                                                                                                                                                                                                                                              Mammalian cells, useful for producing animal tissues with carbohydrate antigens that are compatible for transplantation into human patients.
                                                                                                                                                                                                                                                                                                                                                                                                                   P-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Carbohydrate antigen; alpha(1,3)galactosyltransferase; alpha1,3GT; TERT; transgenic; alpha(1,2)fucosyltransferase; alpha1,2FT; human; enzyme;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAD46821 standard; cDNA; 4015 BP
                                                                                                                                                                                                                                                                                             The invention relates to animal tissues with carbohydrate antigens that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Denning C,
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                                                                                                   Local Similarity
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                                               1 GCGATGCCGCGCTCCCCGCTGCCGAGCCGTGCGCTGCTGCTGCGCAGCCACTACCGC 60
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              GCGATGCCGCGCGCTCCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGC 112
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                               CTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTG
                                                                                               CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1132
                                                                                                                             CAGCIGCGGCCCICCIICCIACICAGCICICIGAGGCCCAGCCIGACIGGCGCICGGAGG 1080
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Qy	dg VQ	D Qy	D Q	D Q	d Vo	g dg	d dd	A 40	Db Qy	B &	B 8	g 8	DP P	9 8	A0	40 40	A 4	dd
2221 TGCGTGCGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTC 2280	2161 ATCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCCAGAACACGTAC 2220	2101 CAGGACCCGCCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGCGCGTACGACACC 2160	2041 GTGCTGGGCCTGGACGATATCCACAGGCCTGGCGCACCTTCGTGCTGCGTGTGCGGGGCC 2100	1981 GCACTGTTCAGCGTGGTCAACTACGAGCGGGCGCGCCCCCGGCCTCCTCTGGGCGCCCCTCT 2040	1921 GTGGGAGCCAGAACGTTCCGCAGAGAAAAAGAGGGCCGAGGGTCTCACCTCGAGGGTGAAG 1980	1861 AGACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTC 1920	1801 GAGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	1741 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 1800 	1681 TICTTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGT 1740	1621 ATCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGTCT 1680	1561 CTGCGCAGGAGCCCAGGGGTTGGCTTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAG 1620	1501 CATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGGACTGCGCTTTGG 1560	1441 TCCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAG 1500	1381 CAGGIGTACGGCTICGIGCGGGCCIGCCCGGCTGGTGCCCCCAGGCCTCTGGGGC 1440	1321 GAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCAGCAGCAGCCCTGG 1380	1261 ACCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGCTCTGTGGCGGCCCCCGAG 1320	1201 CACGCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTC 1260	
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2341 CTGCAGGAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAAT 2400	AAGAGCCACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCAC		ATCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCAAACCCCAGGACACGTAC	216	2041 GTGCTGGGCCTGGACGATATCCACAGGGCCTGGGGGACCTTCGTGCTGCGTGTGCGGGGC 2100	1981 GCACTGTTCAAGGTGCTCAACTACGAGCGGGGGGGGGGG	1921 GTGGGAGCCAGAACGTTCCGCAGAGAAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAG 1980	1861 AGACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTC 1920	1801 GAGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCTGCCTG	1741 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 1800			<u> </u>			1381 CAGGTGTACGGCTTCGTGCGGGGCCTGCGCGGGGGGGGGG
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SULT 8 IC58039 ACC58039 standard; cDNA; 4015 BP. ACC58039; 11-AUG-2003 (first entry)	3361 AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 3411	3301 CAGACG 3353 CAGACG	7 3241 CTCAAGCTGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCC 3300	Y 3181 GGCGCCGGCCGCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTG 3240	Y 3121 GCCTCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAG 3180	Y 3061 CCATTTCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACG 3120	3001 AACATO 3053 AACATO	2941 CTGAA 2993 CTGAA	QY 2881 TTCAACCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTTGGGGTCTTGCGG 2940	CTGGA	Qy 2761 GTTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGATACCCGGACC 2820	Qy 2701 TTGCGGAAGACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTT 2760	Qy 2641 GCGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAAC 2700	Qy 2581 GACGGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCAC 2640	QY 2521 CTGCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGG 2580	OY 2461 ATCAGGGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAAGGGCTCCATCCTCTCCACG 2520

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                                                                                                                                                                                                                                                                                                                                       Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                     cells are not affected by telomerase RNA interference therapy
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20-FEB-2002;
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                                                                                                                         113 GAGGTGCTGCCGCTGGCGACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTG
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       GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTG
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RESULT 9 ACC57552 ID ACC57552 standard; cDNA; 4015 BP. XX AC ACC57552;	3353 CAGACGEAGETGAAGETCCGGAAAGETTCACGEGAACGETGACTGCCETGAAGGECCAGCC 3361 AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGCCACCC 3411	Qy 3241 CTCAAGCTGACACCGTGTCCACCTACGTGCCACTCCTGGGGTCACTCAGGACACCC 3300	3181 GGCCCGCCGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTG	QY 3061 CCATTICAGCAGGTTGGAGGACCCCACATTTTTCCTGGGCGTGATCTCTGACACG 3120 [3001 AACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGGTCTC	Qy 2941 CIGAAGIGTCACAGGCTGTTTCIGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACC 3000	Qy 2881 TICAACCGCGGCTICAAGGCTGGGAGCAACATGCGTCGCAAACTCTTTGGGGTCTTGCGG 2940	OY 2821 CTGGAGGTGCAGAGCGACTACTCCAGCTATGGCCCGGACCTCCATCAGAGCCAGTCTCACC 2880	Qy 2761 GTTCAGATGCCGGCCCACGGCCTATTCCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACC 2820	QY 2701 TIGCGGAAGAČAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTT 2760	QY 2641 GCGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAAC 2700	QY 2581 GACGGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCAC 2640	Page 2521 CTGCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGG 2580	Oy 2461 ATCAGGGGAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCCACG 2520 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	2453 GAG

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20-FEB-2002;
22-MAY-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel nucleic acid encoding or comprising interfering RNAs which target telomerase RNA, useful for inhibiting telomerase activity for treating cancer, infertility and disorders of the immune system.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
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	8 1	AGCC			. ω ω	ACACG 3120 ACACG 3172			NN	N N	GACC 28	28	, N N					TGCGC 2460

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CC microparticle or a matrix suitable for topical administration or a district of the control of a civities and can be used to promote epithelial cell migration. (I) is CC useful for treating a wound and enhancing epitheliastion of a skin CC surface. The wound is especially skin wound including acute lesion such as CC circuit venous ulcer, diabetic ulcer or compression ulcer and the wound is further monitored for closure. The telomerase activity or TERT CC expression is increased in epithelial cells at the site of treatment and CC also in fibroblasts or endothelial cells at the site of treatment and CC also in fibroblasts or endothelial cells at the site of treatment and CC epithelial cells are especially keratinocytes. A polymucleotide encoding CC TERT is useful for the preparation of a medicament for treatment of a cound or an epithelial surface in a human or animal. An epithelial cell with increased telomerase activity or increased expression of TERT is useful for preparation of a medicament for the treatment of a human or animal. (I) is also useful for treating wounds of other complete and company states including mucosal surfaces such as bronchus, mouth, conse, oseophagus, stomach, or intestine. The present sequence encodes invention. hTERT is located to chromosome 5
                                                                                                 Matches 3411;
                                                                                                                                                 Query Match
                                                                                                                                                                                               Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       comprising a vector encoding telomerase reverse transcriptase (TERT) an excipient or device, or comprises telomerised epithelial cells on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Composition for treating wounds and enhancing epithelization of a skin surface, comprises vector encoding telomerase reverse transcriptase or telomerized epithelial cells on a microparticle or a matrix.
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                                                               Matches 3411;
                                                                                                                                                        The invention relates to the generation of primary preadipocyte cell strains that expresse telomerase reverse transcriptase (TERT- the catalytic subunit of telomerase), and maintain and/or enhance replicative potential and maintain adipogenic capacity of:the cell. This sequence represents the gene encoding the TERT protein. The cell strain can be used in research to study all aspect of adipogenesis, especially in relation to researching treatments for e.g. obesity. The cell can also be used to identify adipogenesis modulators for use as therapeutic agents such as hormones, growth factors, cytokines, enzymes, cholesterol binding proteins, cholesterol removing proteins or their combinations. Alternatively, the therapeutic agent may be an adipocytokine, preferably adiponectin, or insulin
                                                                                                                            Sequence 4015 BP; 663 A; 1363 C; 1275 G; 714 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                   New primary preadipocyte strain expressing telomerase reverse transcriptase, useful in research applications, screening assays, clinical applications, and in the administration of therapeutic agents, particularly for obesity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-OCT-2001;
06-OCT-2001;
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                                                                               Local Similarity
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GCGATGCCGCGCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGC
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28-AUG-2001; 2001US-0315563P.
09-JAN-2002; 2002US-0347313P.
                                                                                                                                                                                                                                    Sequence 4015 BP; 664 A; 1363 C; 1275 G; 713 T; 0 U; 0 Other;
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                                                                                                                                                                                    CAGCTGCGGCCCTCCTTCCTACTCAGCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1132
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2213 ATCCCCCAGACAGGCTCACGGAGGTCATCGCCAGCATCATCCAGACCCCAGAACACGTAC 2220 2213 ATCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTAC 2272 2221 TGCGTGCGTCGGTATGCCGTGGTCCAGAAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTC 2280 2211 TGCGTGCGTCGGTATGCCGTGGTCCAGAAGGCCGCCATGGGCACGTCCGCAAGGCCTTC 2332 2273 TGCGTGCGTCGGTATGCCGTGGTCCAGAAGGCCGCCATGGGCACAGTCCGCAAGGCCTTC 2332 2281 AAGAGCCACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGGTTCGTGGCTCAC 2340 2333 AAGAGCCACGTCTTACCTTGACAGACCTCCCAGCCGTACATGCGACAGTTCGTGGCTCAC 2392	93 GTGCTGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCTGCTGCGGGCC 215 01 CAGGACCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGCGTACGACACC 216 01 CAGGACCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGCGCGTACGACACC 216 01		861 AGACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTC 192	1741 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 1800	1673 ATCCTGGCCAAGTTCCTGCACTGATGATGAGTGTTGTACGTCGTCGAGCTGCTCAGGTCT 1732 1681 TTCTTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTCTACCGGAAGAGT 1740	CGCAGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAG 162	ACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTC AGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGC	381 CAGGTGTACGGCTTCGTGCGGGCCTGCGCCGGCTGGGCCCCAGGCCTCTGGGGC 144	21 GAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCACACCCCTGG 1 	1253 CACGCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGTGCGAGCTGCGAGCTGCGGTC 1312 1261 ACCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAAGCCCCCAGGGCTCTGTGGCGGGCCCCGAG 1320
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3293 CTCAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCC 3301 CAGACGCAGCTGAGTCGAAAGCTCCCGGGGACACGCGTGACTGCCTGGAGGCCGCACCC	3173 decreected de la la decrea de la lacta de lacta de lacta de la lacta de lacta de lacta de la lacta de lacta de la lacta de la lacta de la lacta de lacta d	3053 AACATCTACAAGATCCTCCTGCTGCAGGCTACAGGTTCCACGCATGTTGCTGCAGGCTC 3061 CCATTTCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGGGTCATCTCTGACACG	941 993 001	2821 CHANGE GALLACT CARCE IN THE CHARGE CATE CANCEL	753 761 813	2641 GCGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTAGTGAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCTGGTGGAACCTTCCTCAGGACCCTGGAGTGTCCCTGAGTATGGCTGCTGGTGAACCTTCCTCAGGACCCTGAGTGTCCCTGAGTAGACGAGGCCTTTTTTTGCCGGAAGAGACGAGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTT	581 633	513 521 573	2401 GAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGC	2341 CTGCAGGAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAAT

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RESULT 13
AAV72117
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                                                                                                       Matches 3411;
                                                                                                                                        Query Match
                                                                                                                                                                                                               The encoded protein can be used in screening assays to identify modulators of telomerase and to treat or inhibit cellular disorders, death, defects and/or other pathological processes involving telomerase, particularly cancer and ageing (also suitable for this are agents that stimulate, linhibit or mimic the activity of the subunit). Antisense nucleic acids inhibit telomerase action (by binding to specific mRNA), particularly in neoplastic cells and may be expressed in vivo. Antibodies and fragments of the protein, used as probes or primers, are used to diagnose telomerase-related conditions (especially neoplasia) by (i) detecting abnormal levels of the subunit protein in body fluids or tissues or (ii) by measuring the amount of the encoding nucleic acid. Expression of the nucleic acid encoding the subunit mRNA is confined to cumour cells, in contrast to the ubiquitous expression of the telomerase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New catalytically active subunit of human telomerase - used in the modulation of telomerase activity, particularly for treating cancer and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; catalytic telomerase subunit; therapy; diagnosis; hTC; assay; modulator; treatment; inhibit; cellular disorder; death; defect; cancer; ageing; antisense; neoplastic cell; telomerase-related condition; tumour cell; ss.
                                                                                                                                                                    Sequence 4042 BP; 684 A; 1364 C; 1277 G; 717 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                      This sequence encodes a novel human catalytic telomerase sub-unit (hTC)
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26-MAR-1998;
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                                                                                                                        Similarity
   GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCCAGGGCTGGCCGCTGGTG 120
                                     GCGATGCCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGC 119
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                                                                                                                                                                                      CCTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAG 1079
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                                                                                                                                                                                                                                  Query Match
Best Local (
                                                                                                                                                                                                                 Matches 3411;
                                                                                                                                                                                                                                                                                                               The present sequence is that of hTERT cDNA in plasmid pGRN121. hTERT is the catalytic subunit of human telomerrase. Claimed immortalised cell lines for use in vaccine production are adapted to express hTERT. Suitable cell lines comprise human diploid fibroblasts, e.g. MRC-5 or W138 cells, transfected with hTERT cDNA or infected by a retrovirus carrying hTERT cDNA, and are capable of supporting antigen production. A method for preparing such cell lines using recombinant techniques is provided. The cell lines are also used as a diagnostic test for the presence of a virus, such as human cytomegalovirus, and to determine the efficacy of antiviral agents by testing the capability of a modified virus containing a reporter gene to infect the cells. The cell lines have the ability, which can be impaired in cell lines immortalised by other methods, of being able to support viral replication. The cells remain morphologically suitable for viral/vaccine cultivation
                                                                                                                                                                                                                                                                                 Sequence 4070 BP; 670 A; 1383 C; 1296 G; 721 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel hTERT-immortalized cell line (human telomerase reverse transcriptase) useful for human vaccine production and preparation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 1; Fig 1; 64pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         antigen, such as a virus or virus-derived agent.
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                                                                                 CCCCGCCTGCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAAC
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RESULT	g 8	D Q	, B &	P 5	B &	;	, p. 8	8 8	8 8	}	, p. &	, B &	, p. 64	D 6	S B 8	, B &	당 당 선	S B
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                                                                                                                                                                                                               CC This full-length cDNA clone codes for a human telomerase protein 2 (TP2, CC see AAW61350), a novel protein of the telomerase complex. The sequence CC was deduced from overlapping partial clones #32 (see AAV27872) and TP2-15 (see AAV27875), which were obtained from a human colon tumour cell line CC LIM1863 cDNA. Expressing TP2 genes in a cell is used to increase CC telomerase activity and thus proliferation for treatment of e.g. HIV CC infection, AIDS and ageing disorders, while expressing an inactive mutant CC quality for treatment of ageing disorders, while expressing an inactive mutant CC activity, e.g. for treatment of cancer. TR2 polypeptides can also be used to screen for agents that inhibit TP2 activity or its binding to TRIP1 (see AAW61347) or telomerase RNA, potentially useful therapeutically, at inhibitors. Nucleic acid fragments are used as CC diagnostic probes for detecting/quantifying TP2 DNA. Also contemplated are transgenic animals in which the TP2 gene therape vectors. CC they are delivered from engineered cells or gene therapy vectors.
                                                                                                                                       Query Match
Best Local (
                                                                                                                                                                                     Sequence 3798 BP; 613 A; 1311 C; 1212 G; 662 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New nucleic acid encoding human telomerase protein-2 - used for regulating telomerase activity, e.g. for treating cancer or acquired
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Harrington LA, Robinson MO;
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12-OCT-1998
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11-JUN-1997;
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(AMGE-) AMGEN
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                                                                                      GCGATGCCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGC 60
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3425 AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 3475

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Search completed: February 29, 2004, 21:00:14 Job time: 813.167 secs

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Post-processing: Minimum Match 0%
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Listing first 45 summaries
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17359.183 Million cell updates/sec
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Copyright (c) 1993 - 2004 Compugen Ltd
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441 / (ggm2 6 / prodata / 2/pna/US100B COMB. seq: 451 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 461 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 471 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 472 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 552 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US1001A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US1001A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US1001A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US1001A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US1001A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 551 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US101A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US10A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US10A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US10A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US10A COMB. seq: 571 / ggm2 6 / prodata / 2/pna/US10
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

6

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Sequence 11, Application US/09424686F
GENERAL INFORMATION:
APPLICANT: Hagen, Gustav
APPLICANT: Hagen, Gustav
APPLICANT: Wick, Maresa
APPLICANT: Wick, Maresa
APPLICANT: Wick, Maresa
APPLICANT: Zubov, Dmitry
TITLE OF INVENTION: Human Catalytic Telomerase Sub
TITL
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US-09-424-686F-11
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PCT-US02-3146-19
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Sequence 2, Appli
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 3411
TYPE: DNA
ORGANISM: Human
FEATURE:
NAME/KEY: CDS
LOCATION: (1)...
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OTHER INFORMATION: NU
OTHER INFORMATION: pr
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                          GAAGAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCCATCCGTG
   GAAGAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCCACCCCACCCGTG
                                                                                                                                                                                                                                         GGTGCGAGGAGGCGCGGGGGCAGTGCCAAGCTCTGCCCGTTGCCCAAGAGGCCCAAG
                                                                      CGTGGCGCTGACCCCGAGCCGGACCCCGTTGGGCAGGGGTCCTGGGCCCACCCG
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1921 GTGGGAGCCAGAACGTTCCGCAGAGAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAG 1980 	1861 AGACTCCGCTTCATCCCCAAGCCTGACGGCTGCGGCCGATTGTGAACATGGACTACGTC 1920	1801 GAGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	1741 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 1800 	1681 TTCTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTCTACCGGAAGAGT 1740	1621 ATCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGTCGTAGGTCTCAGGTCT 1680		1501 CATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGG 1560	1441 TCCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCCTGGGGAAG 1500	1381 CAGGTGTACGGCTTCGTGCGGCCTGCCGCCTGGTGCCCCCAGGCCTCTGGGGC 1440	1321 GAGGAGGACACAGAGCCCCGTCGCTGGTGCAGCTGCTCCGCCAGCACAGCAGCAGCCCTGG 1380	1261 ACCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCCGAG 1320	بر بر	D—0	1081 CTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTG 1140	1021 CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1080	61 CCTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGAGAGAG	901 GGCCGCCAGCACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACG 960
Q D G	da 40	д . Qy	g dy	g Q	qq	g dy	αα γο	da Ao	B 8	ОУ Db	dg Qy	B &	B &	D da	Db Qy	Οy	Q dd
3001 AACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTTTCCTGCGGGGTCATCTCTGACACG 3120	CTGAAC	TTCAACCGCGGCTTCAAGGCTGGGAAGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGG	1 CTGGA	1 GTTC	1 TTGCG	GCGAA	2581 GACGGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCAC 2640	2521 CTGCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGATTCGGCGG 2580 [ATCAG ATCAG	2401 GAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGC 2460	CTGCA	AAGAG AAGAG	2221 TGCGTGCGTCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTC 2280	2161 ATCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCAGAACACGTAC 2220	CAGGA CAGGA	2041 GIGCTGGGCCTGGACGATATCCACAGGCCTGGCGCACCTTCGTGCTGCTGCTGTGCGGGCC 2100	1981 GCACTGTTCAGCGTGCTCAACTACGAGCGGGGGGGGGGG

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PRIOR APPLICATION NUMBER: US 08/873,039

PILING DATE: 11-UN-1997

PRIOR APPLICATION NUMBER: US 08/751,189

PILING DATE: 15-NOV-1996

APPLICATION NUMBER: US 08/751,189

PILING DATE: 15-NOV-1996

ATTORNEY,AGENT INFORMATION:

NAME: Oleski, Nancy A.

REGISTRATION NUMBER: 34,688

REFERENCE/DOCKET NUMBER: A-433B

REJECOMMUNICATION INFORMATION:

TELEPHONE: (805) 447-6504

INFORMATION FOR SEQ ID NO: 19:

SEQUENCE CHARACTERISTICS:

LENGTH. 3798 base basis
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  Query Match
Best Local Similarity
Matches 3411; Conserv
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GENERAL INFORMATION:
APPLICANT: Harrington, Lea A.
APPLICANT: Harrington, Murray O.
TITLE OF INVENTION: NOVEL GENES ENCODING TELOMERASE PROTEINS NUMBER OF SEQUENCES: 44
                                                                                                                                        TOPOLOGY: 1
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/951,733
FILING DATE: 16-CCT-1997
CLASSITION DATA: 16-CCT-1997
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ADDRESSEE: Amgen Inc.
                                                                                                                                                                                        TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                 LENGTH: 3798 base pairs
TYPE: nucleic acid
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	Db Qy	1741 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 1800	용 성
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TGCTCTGCAGCCTGTGCTACGGCGACAATGGACAACAAGCTGTTTGCGGCGGATTCGGCGGG) B &	1441 TCCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAG 1500	음 성
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Oy 301 GGCTTCGCGCTGCTGGACGGGGCCCCCGAGGCCTTCACCACCAGCGTG 360	Qy 181 TGGGACGCACGCCCCCCCCCCCCCCCCCCCAGGTGTCCCTGCCTG	ი—ი — — <u>—</u> —	Query Match Query Match Best Local Similarity 100.0%; Pred. No. 0; Matches 3411; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Qy 1 GGATGCCGCGCTCCCCGCTGCCGAGCCTCCCTGCTGCGAGCAGCACTACCGC 60	; SEQ ID NO 3 ; LENGTH: 4015 ; TYPE: DNA ; ORGANISM: Homo sapiens ; FEATURE: ; FEATURE: ; NAME/KEY: CDS ; LOCATION: (56)(3454) PCT-US01-15774-3	; APPLICANT: Edward V. Wancewicz ; TITLE OF INVENTION: ANTISENSE MODULATION OF TERT EXPRESSION ; FILE REFERENCE; ISPH-0568 ; CURRENT APPLICATION NUMBER: PCT/US01/15774 ; CURRENT FILING DATE: 2001-05-15 ; PRIOR APPLICATION NUMBER: 09/572,423 ; PRIOR FILING DATE: 2000-05-16 ; NUMBER OF SEQ ID NOS: 108	RESULT 3 PCT-US01-15774-3 ; Sequence 3, Application PC/TUS0115774 ; GENERAL INFORMATION: ; APPLICANT: Isis Pharmaceuticals, Inc. ; APPLICANT: Breett P. Monia ; APPLICANT: William Gaarde ; APPLICANT: Susan M. Freier	Qy 3361 AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 3411	Db 3305 CTCAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCC 3364 Qy 3301 CAGACGCAGCTGAGTCGGAAGCTCCCGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCC 3360
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PCT-USC2-10421-817

Sequence 817, Application PC/TUS0210421

GENERAL INFORMATION:
APPLICANT: Corixa Corporation
APPLICANT: Wang, Tongtong
APPLICANT: Wang, Siqing
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Bangur, Chaitanya S.
APPLICANT: Gaiger, Alexander
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY
TITLE OF INVENTION: AND DIAGNOSIS OF CANCER
FILE REFERENCE: 210121.565PC
CURRENT APPLICATION NUMBER: PCT/US02/10421
CURRENT APPLICATION NUMBER: PCT/US02/10421
CURRENT FILING DATE: 2002-03-28
NUMBER OF SEQ ID NOS: 2959
SEQ ID NO 817
LENGTH: 4015
; TYPE: DNA
; ORGANISM: Homo sapiens
PCT-US02-10421-817
                                                                                            LENGTH: 4015
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Query Match Best Local Similarity

100.0%;

Score 3411; Pred. No. 0;

В 1.

Length 4015;

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GENERAL INFORMATION:
APPLICANT: University of Rochester Medical Center
APPLICANT: Rowley, Peter
TITLE OF INVENTION: Telomerase Interference
FILE REFERENCE: FP-71506-2/RFF/SRN
CURRENT APPLICATION NUMBER: PCT/US02/33146
CURRENT APPLICATION NUMBER: PCT/US02/33146
NUMBER OF SEQ ID NOS: 20
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Best Local Similarity 100.0%; Score 3411;

Best Local Similarity 100.0%; Pred. No. 0;

Matches 3411; Conservative 0; Mismatches
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RESULT 8 PCT-US03-19844-1

Sequence 1, Application PC/TUS0319844 GENERAL INFORMATION:

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SEQ ID NO 1
LENGTH: 4015
TYPE: DNA
ORGANISM: Homo sapiens
Query Match 100.0%; Score 3411; Best Local Similarity 100.0%; Pred. No. 0; Matches 3411; Conservative 0; Mismatches
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APPLICANT: Ferber, Iris
APPLICANT: Frolkis, Maria
APPLICANT: Wang, Zhuo
TITLE OF INVENTION: Cancer Vaccines Containing Xenogeneic Epitopes of Telomerase Rev
TITLE OF INVENTION: Transcriptase
FILE REFERENCE: 086/200
CURRENT APPLICATION NUMBER: PCT/US03/19844
CURRENT APPLICATION NUMBER: 0003-06-24
PRIOR APPLICATION NUMBER: 00/393,295
PRIOR APPLICATION NUMBER: 00/393,295
PRIOR FILING DATE: 2002-06-27
NUMBER OF SEQ ID NOS: 12
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CURRENT FILING DATE: 1999-03-30
EARLIER APPLICATION NUMBER: US 08/911,312
EARLIER FILING DATE: 1997-08-14
EARLIER FILING DATE: 1997-08-14
EARLIER APPLICATION NUMBER: US 08/912,951
EARLIER APPLICATION NUMBER: US 08/915,503
EARLIER APPLICATION NUMBER: WO PCT/US97/17618
EARLIER FILING DATE: 1997-08-14
EARLIER FILING DATE: 1997-10-01
EARLIER FILING DATE: 1997-10-01
EARLIER APPLICATION NUMBER: WO PCT/US/17885
EARLIER APPLICATION NUMBER: WO PCT/US/17885
EARLIER APPLICATION NUMBER: US 08/974,549
EARLIER APPLICATION NUMBER: US 08/974,549
EARLIER FILING DATE: 1997-11-19
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Gaeta, Federico (... APPLICANT: Geron Corporation TiTLE OF INVENTION: Methods and Compositions for Eliciting an Immune TITLE OF INVENTION: Response to a Telomerase Antigen TITLE OF INVENTION: Response to a Telomerase Antigen TITLE REFERENCE: 015389-003500PC
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LOCATION: (56)..(3454)
OTHER INFORMATION: human telomerase reverse transcriptase (hTRT)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match 100.0%; Score 3411; Local Similarity 100.0%; Pred. No. 0;
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301 GGCTTCGCGCTGCTGGACGGGGCCCCGGGGGCCCCCCGAGGCCTTCACCACCAGCGTG

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                                                                                                                                    Sequence 1, Application PC/TUS9907097 GENERAL INFORMATION:
  APPLICANT: Morin, Gregg B.
APPLICANT: Morin, Gregg B.
APPLICANT: Geron Corporation
TITLE OF INVENTION: Human Telomerase Catalytic
FILE REFERENCE: 015389-003310PC
CURRENT APPLICATION NUMBER: PCT/US99/07097
CURRENT FILING DATE: 199-03-31
EARLIER APPLICATION NUMBER: US 09/052,864
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EARLIER APPLICATION NUMBER: US
EARLIER FILING DATE: 1998-08-03
NUMBER OF SEQ ID NOS: 21
SOFTWARE: Patentin Ver: 2.0
SEQ ID NO 1
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ORGANISM: Homo sapiens
FEATURE:
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LOCATION: (56)..(3454)
OTHER INFORMATION: human telomerase reverse transcriptase (hTRT) cDNA
781 GGCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCC
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g VQ	A AG	B &	B &	8 g	B 8	Qy Db	A A	B 8	9 6	ДУ	D Qy	Qy db	D Qy	g Q	dd Vy	Qу	δς γ
861 AGACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGAC;	1801 GAGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	1741 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 1800	1681 TTCTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGT 1740 	1621 ATCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGTCGAGCTGCTCAGGTCT 1680	1561 CTGCGCAGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAG 1620	1501 CATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGGACTGCGCTTGG 1560	1441 TCCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAG 1500	1381 CAGGTGTACGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCAGGCCTCTGGGGC 1440	1321 GAGGAGGACACAGACCCCCGTCGCTGGTGCAGCTGCTCCGCCAGCACAGCAGCAGCCCCTGG 1380	1261 ACCCCAGCAGCCGGTGTCTGTGCCCCGGGAGAAGCCCCAGGGCTCTGTGGCCGGCC	1201 CACGCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTC 1260	1141 CCCCGCCTGCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAAC 1200	1081 CTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTG 1140	1021 CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1080	961 CCTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAG 1020	901 GGCCGCCAGCACGACGGGCCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACG 960	893 GAAGAAGCCACCICTITGGAGGGTGCGCTCTCTGGCACGCCACTCCCACCCATCCGTG 900 893 GAAGAAGCCACCICTITGGAGGGTGCGCTCTCTGGCACGCCACTCCCACCCATCCGTG 952 893 GAAGAAGCCACCICTTTGGAGGGTGCGCTCTCTGGCACGCCACTCCCACCCATCCGTG 952
dg VQ	₽ 4 <u>5</u>	dd dd	g 49	, B 8	P 29	סט פא	₽ &	B &	? B &	or da	₽ 5) P Q	Ωy) B &) p () dd (Q DD Q
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Sequence 1, Application PC/TUS9907160
GENERAL INFORMATION:
APPLICANT: Cech. Thomas R.
APPLICANT: Lingner, Joachim
APPLICANT: Makamura, Toru
APPLICANT: Makamura, Toru
APPLICANT: Morin, Gregg B.
APPLICANT: Morin, Gregg B.
APPLICANT: Harley, Calvin B.
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APPLICANT: Geron Corporation
APPLICANT: University Technology Corporation
TITLE OF INVENTION: Antisense Compositions for Detecting and Inhibiting
TITLE OF INVENTION: Telomerase Reverse Transcriptase
FILE REFERENCE: 015389-003610PC
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NAT FILING DATE: 1999-03-31

ER APPLICATION NUMBER: US 08/724,643

ER FILING DATE: 1996-10-01

ER APPLICATION NUMBER: US 08/844,419

ER APPLICATION NUMBER: US 08/846,017

ER APPLICATION NUMBER: US 08/846,017

ER APPLICATION NUMBER: US 08/854,050

ER APPLICATION NUMBER: US 08/854,050
ER APPLICATION NUMBER: WO PCT/US97/17618
ER FILING DATE: 1997-10-01
ER APPLICATION NUMBER: WO PCT/US97/17885
ER FILING DATE: 1997-10-01
ER APPLICATION NUMBER: US 08/974,549
ER FILING DATE: 1997-11-19
ER APPLICATION NUMBER: US 08/974,584
ER FILING DATE: 1997-11-19
ER APPLICATION NUMBER: US 08/974,584
ER FILING DATE: 1997-11-19
ER APPLICATION NUMBER: US 08/974,584
ER FILING DATE: 1998-03-31
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APPLICATION NUMBER: US 08/915,503
FILING DATE: 1997-08-14
                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 08/911,312
FILING DATE: 1997-08-14
APPLICATION NUMBER: US 08/912,951
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SOFTWARE: PatentIn Ver. 2
SEQ ID NO 1
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ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: CDS
LOCATION: (56)..(3454)
OTHER INFORMATION: human telomerase reverse transcriptase (hTRT)
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2993 CTGAÁGTGTČÁČAGCCTGTTŤCŤGGÁŤTŤTĞCÁGĞŤĞÁÁČÁGCČŤĆCÁĞÁĆGĞŤĞTĞCÁĆĆ 3001 AACATCTACAAGATCCTGCTGCTGCAGGCGTACAGGTŤTCACGCATGTGTGCTGCAGCTC 	Q Q da	1913 AGACTCCGCTTCATCCCCAAGCCTGACGGCTGCGGCCGATTGTGAACATGGACTACGTC 1972 1921 GTGGGAGCCAGAACGTTCCGCAGAGAAAAAGAGGGCCGAGCGTCTCACCTCCGAGGGTGAAG 1980	~ 0
2931 TICAACCGCGCTTCAAGGCTGGGAGGAACATGCCGCAAACTCTTTGGGGTGTTGCGG 2933 TTCAACCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTTGGGGTTTTGCGG 2941 CTGAAGTGTCACAGCCTGTTTTCTGGATTTTGCAGGTGAACAGCCTCCAGACGGTGTGCACC [. Q D &	PCGGAAGCAGAGGGTCAGGCATCG	` ' ' '
2821 CTGGAGGTGCAGACGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACC	S & S	41 GTCTGGF 93 GTCTGGF	0 <
813 G	, p &	1681 TTCTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGT 1740 	υ ~
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	ρ δ	1141 CCCCGCCTGCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAAC 1200	8 8
· ~-~	5 B 8	1081 CTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTG 1140	ਲੇ ਵੱ
	p &	1021 CAGCTGGGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1080	ਲੇ ਵਿੱ
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                                                                                                                                                                                                        CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-0CT-1996
PRIOR APPLICATION DATA:
ADDITION DATA: US 08/844,419
                                                                                                            FILING DATE: 18-APR-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/851,843
            APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-MAY-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/911,312
                                                           PILING DATE: 06-MAY-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/854,050
                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy disk COMPUTER: ISM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION UNBER: US/08/974,549 FILLING DATE: 19-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Lingher, Joachim
APPLICANT: Nakamura, Toru
APPLICANT: Chapman, Karen B.
APPLICANT: Morin, Gregg B.
APPLICANT: Harley, Calvin B.
APPLICANT: Andrews, William H.
TITLE OF INVENTION: Human Telomerase Catalytic Subunit
                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 94111-3834
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: San Francisco
STATE: California
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Matches 3411; Conservative
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TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 4015 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: CDS
LOCATION: 56..3454
OTHER INFORMATION:
OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: CDNA
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APPLICATION NUMBER: WO PCT/US97/17885

FILING DATE: 01-OCT-1997

ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/US97/17618
FILING DATE: 01-OCT-1997
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TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US 08/915,503 FILING DATE: 14-AUG-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Apple, Randolph Ted REGISTRATION NUMBER: 36,4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US 08/912,951 FILING DATE: 14-AUG-1997
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481 GTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGC
                                                               121 CAGCGCGGGGACCCCGGCGCTTTCCGCGCGCGCTGGTGCCCAGTGCCTGGTGCCTGGCCCC
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                                                                                                    CGCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGCGTGGGGGCCTG
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100.0%; Pred. No. 0;
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/note= "human telomerase reverse
transcriptase (hTRT) catalytic protein
component"
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ER: 015389-002610US
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RESULT 13
US-09-052-864-1
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GENERAL INFORMATION:
APPLICANT: Movin, Gregg B.
TITLE OF INVENTION: Human Telomerase Catalytic Subunit
TITLE OF INVENTION: Variants
                                                            COMPUTER READABLE FORM:
MEDIOW TYPE: Floppy disk
COMPUTER: IBW PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                          APPLICATION NUMBER: FILING DATE: 31-MA
CLASSIFICATION: 435
                                                                                                                                                                                                                                                COUNTRY:
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                                                                                                                                                                                                                                                                                             San Francisco
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                       31-MAR-1997
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INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
1.PRIGTH: 4015 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 3411;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/974,584
FILING DATE: 19-NOV-1997
ATTORNEY/AGENT INFORMATION:
NAME: Apple, Randolph T.
REGISTRATION NUMBER: 36,429
REGISTRATION NUMBER: 36,429
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APPLICATION NUMBER: WO PCT/US97/17618
FILING DATE: 01-OCT-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/US97/17885
FILING DATE: 01-OCT-1997
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TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
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APPLICATION NUMBER: US 08/851,843
FILING DATE: 06-MAY-1997
PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCATION: 56..3454
OTHER INFORMATION: /product= "human telomerase reverse OTHER INFORMATION: transcriptase (hTRT)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: STRANDEDNESS: BI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-003300US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: FILING DATE: 14-AU
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301 GGCTTCGCGCTGCTGGACGGGGCCCGCGGGGGCCCCCCGAGGCCTTCACCACCAGCGTG 360
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100.0%; Pred. No. 0;
rative 0; Mismatches
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RESULT 14
US-09-432-503-1
; Sequence 1, Application US/09432503
; GENERAL INFORMATION:
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Lingner, Joachim
Nakamura, Toru
Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin B.
Andrews, William H.
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; SEQUENCE DESCRIPTION: SEQ ID NO: 1: US-09-432-503-1
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                                                                                                                                                                    Matches 3411;
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                           ocal Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: WO PCT/US97/17885
FILING DATE: 01-OCT-1997
ATTORNEY/AGENT INFORMATION:
NAME: Apple, Randolph Ted
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002610US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/432,503
FILING DATE: 02-Nov-1999
CLICATION PC-Nov-1999
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/974,549
FILING DATE: <Unknown>
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear MOLECULE TYPE: cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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NUMBER OF SEQUENCES: 727
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                           61 GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTG 120
                                                                                                     1 GCGATGCCGCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGC 60
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FILING DATE: 06-MAY-1997
APPLICATION NUMBER: US 08/854,050
FILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/911,312
FILING DATE: 14-AUG-1997
APPLICATION NUMBER: US 08/912,951
FILING DATE: 14-AUG-1997
APPLICATION NUMBER: US 08/915,503
FILING DATE: 14-AUG-1997
APPLICATION NUMBER: US 08/915,503
                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY:
LOCATION:
                                                                       GCGATGCCGCGCTCCCCGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGC 112
                                                                                                                                                                                                                                                                                                                  LOCATION: 56..3454
OTHER INFORMATION: /product= "hTRT"
/note= "human telomerase reverse
transcriptase (hTRT) catalytic protei
component"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 4015 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
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TELEFAX:
                                                                                                                                                                    Conservative
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100.0%; Pred. No. 0;
rative 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                  protein
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                                                                                                                                                                  0; Indels
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FILE REFERENCE:
CURRENT APPLICATION NUMBER: US/09/601,645
CURRENT FILING DATE: 2000-08-04
PRIOR APPLICATION NUMBER: DE 198 04 372.4
PRIOR FILING DATE: 198-02-04
PRIOR FILING DATE: 198-02-04
NUMBER OF SQC ID NOS: 10
SOFTWARE: PADAT Sequenzmodul, Version 1.0
SEQ ID NO 10
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GENERAL INFORMATION:
APPLICANT: Michael Dahm
APPLICANT: Robert C. Phelps
APPLICANT: Carsten Brockmeyer
TITLE OF INVENTION: Method for the quantitative determination of tumor cells
TITLE OF INVENTION: in a body fluid and test kits suitable therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 3411;
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Best Local :
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ORGANISM: Homo sapiens
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                             GCTGCCACTCAGGCCCGGCCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGC 652
                                                                                                                                                     CTGCTGCGCCGCGTGGGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTT
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100.0%; Pred. No. 0;
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GUGAAAACUTTCCTCAGGACCTTGGTCCCAGGTGTCCCTGATTATGGCTGCTGGTGTAGACTTGATGACTTCCTTAGACCTTGGTTGAAC	} B &	1561 CTGCGCAGGAGCCCAGGGGTTGGCTGTGTTCCCGGCCGCAGAGCACCGTCTGCGTGAGGAG 1620	당 성
GACGGGCTGCTCCTGCGTTTGGTGGTGATTCTTGTTGGTGAACCTCACCTCACCCAC) B &	1501 CATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGACTGCGCTTGG 1560 	유왕
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Search completed: March 1, 2004, 22:57:54 Job time: 6924.41 secs

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Result
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11471.157 Million cell updates/sec
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| cgn2_6/ptodata/1/pna/PcT_NEW_COMB.seq:*
| cgn2_6/ptodata/1/pna/US06_NEW_COMB.seq:*
| cgn2_6/ptodata/1/pna/US07_NEW_COMB.seq:*
| cgn2_6/ptodata/1/pna/US08_NEW_COMB.seq:*
| cgn2_6/ptodata/1/pna/US08_NEW_COMB.seq:*
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US-10-601-807-5

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US-10-767-701-9739

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US-10-767-471-10806

US-10-767-471-10803

US-10-767-471-1913
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US-10-767-701-18773
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US-10-767-701-12235
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US-10-767-701-30024
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US-10-767-701-4866
US-10-767-701-2473
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US-10-767-701-20222
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                                          Sequence 253, App Sequence 2473, App Sequence 2470, A Sequence 30024, Ap Sequence 1235, Ap Sequence 1235, Ap Sequence 1243, Ap Sequence 1482, Ap Sequence 11873, Ap Sequence 11616, Ap Sequence 116216, Ap Sequence 2473, Ap Sequence 11623, Ap Sequence 10516, Ap Sequence 2022, Applix Sequence 4633, Ap Sequence 4633, Ap Sequence 4633, Ap Sequence 4704, Ap Sequence 27679, Ap Sequence 14298, Ap Se
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Sequence 491, App	Sequence 9675, Ap	Sequence 4204, Ap	Sequence 10770, A	Sequence 9110, Ap	Sequence 4186, Ap	Sequence 10573, A	Sequence 13411, A	Sequence 12034, A	Sequence 5, Appli	Sequence 4070, Ap	Sequence 4396, Ap	Seguence 4866, Ap	Sequence 8767, Ap	Sequence 10639, A	Sequence 10753, A	•	`	Sequence 193, App

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; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS106538_1
US-10-767-701-253
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, Sequence 253, Application US/10767701
, Sequence 253, Application US/10767701
, GENERAL INFORMATION:
   APPLICANT: Kovalic, David K.
   APPLICANT: Zhou, Yihua
   APPLICANT: Cao, Yongwei
   TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated
   TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
   FILE REFERENCE: 38-21(53535)B
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CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 253
LENGTH: 574
TYPE: DNA
ORGANISM: Sorghum bicolor
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Best Local Similarity 48.0%;
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425
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                                             409 GCGTGGGGGCTGCTGCGCGCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGC 468
                                                                                             365 CTCGCCCTCTGCGCCGTGTCCCTCCTCGGCGGCGCCACGCCGGGCTCCCCGGCGACGTC 424
                                                                                                                                           349 ACCACCAGCGTGCGCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGGAGCGGG 408
                                                                                                                                                                                                                                      289 GTGCTGGCCTTCGGCTTCGCGCTGCTGGACGGGGCCCCGGGGGGCCCCCCCGAGGCCTTC 348
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GTGTGCGTGCCTGGGACGCACGGCCGCCCCCGCCCCCCTCCTTCCGCCAGGTGTCC 228
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; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS92278_1
US-10-767-701-4886
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US-10-767-701-4866
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Sequence 2473, Application US/10767701
GENERAL INFORMATION:
APPLICANT: KOVALIC, David K.
APPLICANT: Zhou, Yihua
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GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
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Local Similarity 46.8%;
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Cao, Yongwei
                                                                                                                                                                                                                                                                                                               CCGGGCGCTCCGCGAGGCTGGGGCCGGGGCCGC 546
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 54.6;
Pred. No. 0
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0.0018;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 2570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 25070, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
                                                                                                                                                    Matches 216;
                                                                                                                                                                                                                               Query Match
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Best Local Similarity 52.9%;
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LENGTH: 570
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TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(53535)B
FULL REFERENCE: 38-21(53535)B
FULL REFERENCE: 208-21(53535)B
FULL REFERENCE: 209-21(53535)B
FULL REFERENCE: 209
                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
ORGANISM: Sorghum bicolor
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LOCATION: (1)..(570)
OTHER INFORMATION: unsure at all n locations
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                                                                                                                                                                                          Similarity
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                                                                                                                                                                                 46.1%;
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                                                                                                                                                                                     Score 53.4; DB 6; Length 637; Pred. No. 0.0032;
                                                                                                                                                    Mismatches 251;
                                                                                                                                                    Indels
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(5355)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 30024
LENGTH: 522
TYPE: DNA
ORGANTO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; OTHER INFORMATION: Clone ID: 9848339 US-10-767-701-30024
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Best Local Similarity 49.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 167;
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                           296
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                    CGACCTCGCCAAGCCCGCCGTCGCATGGGCCGTCATCCTCGCCGTCGACTACAAGAT
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US-10-767-701-4466
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US-10-767-701-8805
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                                                                                                     Sequence 4466, Application US/10767701
GENERAL INFORMATION:
APPLICANT: KOVAIIC, David K.
APPLICANT: Zhou, Yihua
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CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 8805
LENGTH: 667
TYPE: DNA
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GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 12235, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
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Best Local
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SEQ ID NO 4466
LENGTH: 580
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Best Local
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CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Sorghum bicolor
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CGAGCTTCTTCAGCTGCGAGGTCAGCTGCTTGCGGAAGTTGGTGGGGGAGCTTGCCGCCGT
                               CCGCCCCTCCTTCCGCCAGGTGTCCTGCCTGAAGGAGCTGGTGGCCCGAGTGCTGCAGA 262
                                                                                                                                              GCTTGGGCGACGCCGCCGTCTTAGCCTTCGCCCTTCGGCGAGGCCTTGGGCTTGGCCGCGG 532
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                                                                                                                                                                                                                                                                                                                           Score 51.2; DB 6; Length 1165;
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                                                                                                                                                                                                                                                                                          Mismatches 123;
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US-10-767-701-2473
; Sequence 2473, Application US/10767701
; GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Cao, Yongwei
; APPLICANT: Cao, Yongwei
; TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
; TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
; FILE REFERENCE: 38-21(53535) B
; CURRENT APPLICATION NUMBER: US/10/767,701
; CURRENT FILING DATE: 2004-01-29
; NUMBER OF SEQ ID NOS: 63128
; SEQ ID NO 2473
; SEQ ID NO 2473
US-10-767-701-8767
Sequence 8767, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
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LOCATION: (1)..(570)
OTHER INFORMATION: unsure at all n locations
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ORGANISM: Sorghum bicolor
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Pred. No. 0.01;
0; Mismatches 195; Indels
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement

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US-10-767-701-1482
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APPLICANT: Cabu, Yongwei

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement

FILE REFERENCE: 38-21 (53535) B

CURRENT APPLICATION NUMBER: US/10/767,701

CURRENT FILING DATE: 2004-01-29

NUMBER OF SEQ ID NOS: 63128

SEQ ID NO 1482

LENGTH: 963

TYPE: DNA

ORGANISM: Sorghum bicolor

FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1482, Application US/10767701
GENERAL INFORMATION:
APPLICANT: Kovalic, David K.
APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 8767
LENGTH: 1215
                                                                                                                                                                 Matches
                                                                                                                                                                                  Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 170; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
ORGANISM: Sorghum bicolor
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                                                                                                                                                                                                                                                                                  FEATURE:
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                                                                                                                                                                                Y Match 1.5%;
Local Similarity 46.5%;
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                                            76
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    GACGCGGCGGCCCAGCTCCCCGCTCTTGTGGGCCGCTTCGTGGCCCACCTGGAATCCTAC
                                          GCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCG---GGGAC 132
                                                                                   CTCTGGTTCCGCGGGCTGCGCTCGCTGCGCCGGGACCTGGCGTCGGCCCGGTGGTCGGAC 167
                                                                                                                         CCCCGCTGCCGAGCCGTGCGCTCCCTGCTGCGCAGCCACTACCGCGAGGTGCTGCCGCTG 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCTTCGCGCTGCTGGACGGGGCCCGCGGGGGCCCCCCCGAGGCCTTCACC 351
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                                                                                                                                                             Score 50.8; DB 6; Length 9
Pred. No. 0.013;
0; Mismatches 227; Indels
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Pred. No. 0.013;
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RESULT 13

US-10-767-701-10516/c

; Sequence 10516, Application US/10767701

; GENERAL INFORMATION:

; APPLICANT: Kovalic, David K.
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RESULT 12
US-10-767-701-18773
(Sequence 18773, Application US/10767701

; Sequence 18773, Application US/10767701
; GENERAL INFORMATION:
   APPLICANT: Kovalic, David K.
   APPLICANT: Cao, Yongwei
   APPLICANT: Cao, Yongwei
   TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
   TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
   TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
   FILE REFERENCE: 38-21 (53535) B
   CURRENT APPLICATION NUMBER: US/10/767,701
   CURRENT FILING DATE: 2004-01-29
   NUMBER OF SEQ ID NOS: 63128
   SEQ ID NO 18773
   ENGITH: 571
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                                                                                                                                                                                                                                                                                                                                                                                                           Matches 102;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                 ocal Similarity 54.3%;
374
                                              270 CGAGCGCG 277
                                                                                                314 CTTCTCCCACGAGAACTGGAGCCGGCCCAGGGTGGAAGTGGAATTCTTGATGGGGCAGTT 373
                                                                                                                                                                                                                                                       150 GCTGGTGGCCCAGTGCCTGGTGCGTGCCCTGGGACGCACGGCCGCCCCCCCGCCGCCCC 209
                                                                                                                                                                                                                                                                                                           194 GCGGTGGGCGCGCGCGCGGGCTGCCGTCCGCGGCCGGGCACGAGGCCGGGCCGCGCGC
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                                                                                                                                                    210 CTCCTTCCGCCAGGTGTCCTGCCTGAAGGAGCTGGTGGCCCGAGTGCTGCAGAGGCTGTG 269
                                                                                                                                                                                                        254 GCTGGAGGAGGTGGTGCGGCTCTCCCGCGCCTGGGGGCGTCCGCGCGCTCACCGCCTTTGC 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               433 GTGGGCGACG 442
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      348 CTCTACACCGAGTCCGGGCGCCCGCCTCGAGGCGCAGCTGCCGGACCTCCTCCTCGGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               288 GCGGAGCGCGCCGCGTACTGGCTCGCCGGGTGGCGGCCCACCACGCTGGTCCACCTG 347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             228 TGCGCGGCGCGCGCGGGGCTGGACCCCGGTGTGGACGCTGTCGGCGCCGTGGGGCCACCCCC 287
                                                                                                                                                                                                                                                                                                                                                         90 GCGCCTGGGGGCCCAGGGCTGGCGGCTGGTGCAGCGCGGGGACCCCGGCGGCTTTCCGCGC 149
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TGAGCGAG 381
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                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 50.4; DB 6; Length 571; Pred. No. 0.014;
                                                                                                                                                                                                                                                                                                                                                                                                           86;
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APPLICANT: Zhou, Yihua
APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
FILE REFERENCE: 38-21(5355)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEC ID NOS: 63128
LENGTH: 584
TYPE: nv.
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                                                         ; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS70322_1
US-10-767-701-11623
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APPLICANT: Cao, Yongwei
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof For Plant Improvement
FILE REFERENCE: 38-21(5355)B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 10516
LENGTH: 572
               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
 Matches 156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                    ORGANISM: Sorghum bicolor FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS1663_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    401
                                                                                                                                                                                                                                                                                                                                                                               162 CCAGCAGGTGCTGCCGGATGGTGTCCAGCACCAACGCCTCCGACGCCGGGTTCAGC 107
                                                                                                                                                                                                                                                                                                                                                                                                          480 TGTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGC 535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420 GCTGCTGCGCCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGCGCACGCTGCGCGCCTCTT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                194;
                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTGGTCCGCCACCAGGCTCCCGAAGCTCTCGTCCCCCGCCGCCGCCGCCGCTGGCTCCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGCTTCGCGCTGCTGGACGGGGCCCGCGGGGGCCCCCCGGAGGCCTTCACCACCACCGT 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCAGGAGGAGCCGTCGTAGGAGTAGGAGTAGGAGTGGGAGTCCGGGGACAGCGCCGGCTC 342
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            1.5%;
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 0; Mismatches 176;
            Score 50.4; DB 6; Length 584; Pred. No. 0.014;
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 Indels
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Gaps
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APPLICANT: Chou, Yihua
APPLICANT: Chou, Yihua
FIITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
FILE REFERENCE: 38-21 (53535) B
CURRENT APPLICATION NUMBER: US/10/767,701
CURRENT FILING DATE: 2004-01-29
NUMBER OF SEQ ID NOS: 63128
SEQ ID NO 14885
LENGTH: 1854
TYPE: """
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                                                                                               1187 CGCCCGCGGCGAGGCGATCTGCTCCCGGGTGACCAGGGCGGGGGGGCGCGGGAGAGCGGGCG 1246
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432 CGTGGGCGACGACGTGCTGGTTGACCTGCTGGCACGCTGCTGGTGGTGGCTGGTGGC 491
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Search completed: March 1, 2004, 23:56:47 Job time: 51.0927 secs

AA281296 BM824748 BG917907

AA281296 zt08902.r CF531121 UI-M-FY0-CF53102 UI-M-YV0-BQ258274 NISC kp11 BB618671 BB618671 BB651920 BB651920 BE371943 601217728 BE336925 601290610

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BY149368 BU452535

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BU452536 BO3767927
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Result
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Perfect score:
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Copyright (c) 1993 - 2004 Compugen Ltd.
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Clark,A.G., Glanowski,S., Nielson,R., Thomas,P., Kejariwal,A., Todd,M.A., Tanenbaum,D.M., Civello,D.R., Lu,F., Murphy,B., Ferriera,S., Wang,G., Zheng,X.H., White,T.J., Sninsky,J.J., Adams,M.D. and Cargill,M.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (Dases 1 to 1926)

Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.

Inferring nonneutral evolution from human-chimp-mouse orthologous genomic survey sequence.
AY407349 AY407349 1826 bp DNA linear GSS 15-DE Homo sapiens TERT gene, VIRTUAL TRANSCRIPT, partial sequence, Science 302 (5652), 1960-1963 (2003) AY407349.1 GI:39763320 Homo sapiens (human) GSS 15-DEC-2003

ALIGNMENTS

AW318894 un09a02.y BF511837 UI-H-BI4-BF802688 PM4-CI007 BU111946 603127372

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                                                               CCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGAGACCAGCC
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/mol_type="genomic DNA"
/db_xref="taxon:9606"
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1877 CCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGCAGCCAGAACGT 1936	757 AAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAAGCTGTCGGAAGCAG 1816	1637 TGCACTGGCTGATGAGTGTTACGTCGTCGAGCTGCTCAGGTCTTTTATGTCACGG 1696	ch 38.4%; Score 1308.6; DB 29; Length 1584; al Similarity 83.1%; Pred. No. 1.2e-201; 1317; Conservative 0; Mismatches 267; Indels 0; Gaps 0; 577 GGGTTGGCTGTTCCGGCCCAGAGCACCGTCTGCGTGAGGAGATCCTGGCCAAGTTCC 1636	/ Organism="Pan troglodytes" /organism="Pan troglodytes" /mol_type="genomic DNA" /db_xref="taxon:9598" <11584 /gene="TERT" /locus_tag="HCM2861"		gene trios Science 302 (5652), 1960-1963 (2003) 14671302 2 (bases 1 to 1584) Clark,A.G., Glanowski,S., Nielson,R., Thomas,P., Kejariwal,A., Todd,M.A., Tanenbaum,D.M., Civello,D.R., Lu,F., Murphy,B., Ferriera,S., Wang,G., Zheng,X.H., White,T.J., Sninsky,J.J., Adams,M.D. and Cargill,M.	Pan troglodytes TERT gene, VIRTUAL TRANSCRIPT, partial sequence, genomic survey sequence. AY407350 AY407350.1 GI:39763321 GSS. Pan troglodytes (chimpanzee) Clars, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan. 1 (bases 1 to 1584) Clark,A.G., Glanowski,S., Nielson,R., Thomas,P., Kejariwal,A., Todd,M.A., Tanenbaum,D.M., Civello,D.R., Lu,F., Murphy,B., Ferriera,S., Wang,G., Zheng,X.H., White,T.J., Sninsky,J.J., Adams,M.D. and Cargill,M. Inferring nonneutral evolution from human-chimp-mouse orthologous
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Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
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Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AY407351 1835 bp DNA linear GSS 15-DE Mus musculus TERT gene, VIRTUAL TRANSCRIPT, partial sequence,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                genomic survey sequence.
AY407351
AY407351.1 GI:39763322
GSS.
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CCAAGCCCAACGGCCTGCGGCCCATTGTGAACATGAGTTATAGCATGGGTACCAGAGCTT 360
                                    CCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTCGTGGGAGCCAGAACGT 1936
                                                                                AGGTCAGGCATCACCAGGACACCTGGCTAGCCATGCCCATCTGCAGACTGCGCTTCATCC
                                                                                                                         AGGTCAGGCAGCATCGGGAAGCCAGGCCCGGCCCTGCTGACGTCCAGACTCCGCTTCATCC 1876
                                                                                                                                                                                                                                                       AGAGCACATTCCAGAAGAACAGGCTCTTCTTCTACCGTAAGAGTGTGTGGAGCAAGCTGC
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based on alignment.
Location/Qualifiers
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/mol_type="genomic DNA"
/db_xref="taxon:10090"
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/locus_tag="HCM2861"
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Pred. No. 2.7e-137;
0; Mismatches 638; Indels 9;
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                    CACGGTCTATTTCTAGACTTGCAGGTGAACAGCCTCCAGACAGTCTGCATCAATATATAC 1440
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.

1. (bases 1 to 925)
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National Institutes of Health, Mammalian Gene Collection (MGC)
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    Conservative
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Location/Qualifiers
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                                                      /mol_type="mkNA.
/db xref="taxon:9606"
/db xref="taxon:9606"
/clone="IMAGE:5529840"
/tissue_type="leiomyosarcoma"
/lab host="UP108 (phage-resistant)"
/clone libe"NIH MGC 71"
/note="Corgan: uTerus; Vector: pCMV-SPORT6; Site_1: Not1;
Site_2: Sal1; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 2.1 kb. "
                                                                                                                                                                                                                                                                                             organism="Homo sapiens"
|mol_type="mRNA"
                        99.2%;
    0;
  Score 806; DB 12;
Pred. No. 2.4e-120;
0; Mismatches 5;
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                                            Length 925;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 851)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                         Mus musculus
                                                                                                                                                                                                                                              BU702370
851 bp mRNA linear EST 15-JUL-2003
UL-M-FIO-byx-f-12-0-UI.r1 NIH BMAP FIO Mus musculus cDNA clone
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                                                                                                                                                                                                                             IMAGE:6400523 5', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
CDNA Library preparation: Dr. M. Bento Soares, University of Iowa
CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
CDNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: MGC clone distribution information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                        GCCACCACGCCGTGCGCATCAGGGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGG 2503
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                                                                                                                                                                   GCTCCAGCCTATCCACCCTGCTCTGCAGTCTGTGTTTTCGGAGACATGGAGAACAAGCTGT
                                                                                                                                                                                                                                                                                                GTCACAGTGTCGTAAAGATTGGTGACAGGTGCTATACGCAGTGCCAGGGCATCCCCCAGG
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//clone lib="NIH BMAP FIO"
//clone l
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/mol type="mRNA"
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_stage="embryo 12.5dpc"
_host="DH10B (T1 phage 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 500.2; DB 13; Length 851; Pred. No. 7.6e-71;
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Mammalla; Butheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 492)
Kim,N.S., Hahn,Y., Oh,J.H., Lee,J.Y., Ahn,H.Y., Chu,M.Y., Kim,M.R.,Oh,K.J., Cheong,J.E., Sohn,H.Y., Kim,J.M., Park,H.S., Kim,S. and Kim,Y.S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Genome Research Center
Korea Research Institute of Bioscience & Biotechnology
52 Eoeun-dong Yuseong-gu, Daejeon 305-333, South Korea
Tel: +82-42-860-4470
Fax: +82-42-860-4409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIC Frontier Korean EST Project 2001
Unpublished (2002)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: yongsung@mail.kribb.re.kr
Plate: 99 row: E column: 07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Kim YS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BM824748.1 GI:19181161
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K-EST0096335 S22SNU16n1 Homo sapiens cDNA clone S22SNU16n1-99-E07
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                                                              /tissue_type="Ascites"
/cell_type="Lymphoblast-like"
/cell_line="SNU-16"
/lab_Fost="DH10B"
/clone_lib="S2
/note="Organ:
                                                                                                                                                                                                                                                             /db xref="taxon:9606"
                                                                                                                                                                                                                                                                                         organism="Homo sapiens"
/mol_type="mRNA"
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                                                                                                                                                                                                                              one="S22SNU16n1-99-E07"
                                  lib="S22SNU16n1"
      Stomach; Vector: pT7T3-Pac; Site_1: EcoRI;
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ORIGIN

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Contact: Robert Strausberg, Ph.D.

Email: cgapbs r@mail.nih.gov

Tissue Procurement: Jeffrey Green M.D.

cDNA Library Preparation: Life Technologies, Inc.

cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

LNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can

found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov

plate: LLAM10903 row: k column: 08
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BG917907.1 GI:14298383
                                                                                                                                                                                                                                                                                                 Unpublished (1999
                                                                                                                                                                                                                                                                                                                       NIH-MGC http://mgc.nci.nih.gov/.
Mational Institutes of Health, Mammalian Gene Collection (MGC)
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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KEYWORDS VERSION

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Best Local :
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Local Similarity 71.9%;
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GAAGCTCCCGGGGACGCTGACTGCCCTGGAGGCCGCAGCCAACCCGGCACTGCCCCTC 3377
                                                                                CCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAGACGCAGCTGAGTCG
                                         TTCTGTCATCTACAAATGTCTCCTGGGACCTCTGAGGACAGCCCAAAAAACCGCTGTGCCG
                                                                                                                         CCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCT-GCTCAAGCTGACTCGACA
                                                                                                                                                                                                       ATCCTGAAGGTCAAGAATCCAGGAATGACACTAAAGGCCTCTGGCTC------
                                                                                                                                                                                                                                                 ATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGGCCAAGGGCCGCCGGCCCTCTG 3198
                                                                                                                                                                                                                                                                                        AGGAAGAACCTCACATTCTTTCTGGGCATCATCTCCAGCCAAGCATCCTGCTATGCT
                                                                                                                                                                                                                                                                                                                                                                        CTGCTTCAGGCCTACAGGTTCCATGCATGTGATTCAGCTTCCCTTTGACCAGCGTGTT
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/note="Organ: mammary; Vector: pCMV-SPORT6; Site 1: Sall;
Site_2: Not1; Cloned unidirectionally. Primer: Oligo dT.
Library constructed by Life Technologies. Investigator
providing samples: Jeffrey Green, M.D., NIH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone="IMAGE:4949887"
/sex="female, virgin"
/tissue_type="infiltrating ductal carcinoma"
/dev_stage="5 months"
/lab_host="DHIOB"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1. .85
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/strain="FVB/N"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Mus musculus"
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Pred. No. 1.1e-57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches 215;
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JOURNAL COMMENT
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TITLE
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1687
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                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seq primer: -28ml3 rev2 ET from Amersham High quality sequence stop: 385.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: cgapbs-r@mail.nih.gov

Email: cgapbs-r@mail.nih.gov

This clone is available royalty-free through LLNL; contact the

IMAGE Consortium (info@image.llnl.gov) for further information.

Insert Length: 2187 Std Error: 0.00
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mRNA sequence
AA281296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      zt08g02.rl NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:712562 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA281296.1 GI:1924194
                                                  AGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGACGTG 180
                                                                                AGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTG 1806
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                                                                                                                 TATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGG
                                                                                                                                                TATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGG 1746
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                                                                                                                                                                                                                                                                                                                          Gene Index
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone="IMAGE:712562"
/tissue_type="germinal center B cell"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lab_host="DH10B"
                                                                                                                                                                                                                                                             11.3%;
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                                                                                                                                                                                                                                                             Score 385.8; DB 9
Pred. No. 1.9e-52;
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                                                                                                                                                                                                                                                                               Length 389;
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CF531121
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VERSION
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-romail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
CDNA Library preparation: Dr. M. Bento Soares, University of Iowa
CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Distribution information can be found at
http://genome.uiowa.edu/distribution/mousefl.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
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OI-M-FY0-cgp-m-21-0-UI.rl NIH_BMAP_FY0 Mus musculus IMAGE:30355988 5', mRNA sequence.
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1 (bases 1 to 688)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Seq primer: pYX-5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCACTG
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            program coordinator.
                                                                                                                                                                                                                                                                                                                                                                                                   db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                      strain="C57BL/6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                        organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                       type="mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      la; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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Query Match Best Local Similarity

10.0%;

Score 341.8; DB 14; Length 688; Pred. No. 3.1e-45; 0; Mismatches 149; Indels 0;

Gaps

0

Matches 430;

Conservative

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RESULT 10
CF531069
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                                                                                                                   Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jim Lin, University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
cDNA Sequencing by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Distribution information can be found at
http://genome.uiowa.edn/distribution/mousefl.html
This clone was contributed by the Brain Molecular Anatomy Project
                                                                                 Seq primer: pYX-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CF531069 649 bp mRNA linear EST 12-SEP UI-M-FY0-cgp-c-19-0-UI.rl NIH_BMAP_FY0 Mus musculus cDNA clone
                                                                                                                                                                                                                                                                                NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 649)
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                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCGCGGGGACCCCGGCGCTTTCCGCGCGCGCGTGGCCCAGTGCCTGGTGTGCCTTGCCCT 181
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                                                                                                                                                                                                                                                                                                                                                                                                                                          musculus (house mouse)
organism="Mus musculus"
ool_type="mRNA"
                                                               Location/Qualifiers
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                                                   BQ258274 664 bp mRNA linear EST 06-MAY-
NISC_kp11g04.q3 Baker mouse embryo e7.5 Mus musculus cDNA clone
IMAGB:5409222, mRNA sequence.
                     BQ258274.1 GI:20459030
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362 GCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGCTTGGGGGGCTGC 421
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TTCTGGTGCCCCCCCAGCTGTGCCTACCAGGGGAGATGGCC 559
                                                                       TGCTGGTGGCTCCCAGCTGCGCGCCTACCAGGTGTGCGGGCC 521
                                                                                                                                                                                                                                                                                                                           TGCTGCGCCGCGTGGGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTG 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTTTGAGCTGCTTAACGAGGCCAGAGGCGGCCTCCCATGGCCTTCACTAGTAGCGTGC 399
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//dev stage="embryo 13.5,14.5,16.5,17.5dpc"
/lab_host="Pullo (TI phage resistant)"
/clone_lib="NIH_BMAP_FYO"
/clone_lib="NIH_BMAP_FYO"
/clone_lib="NIH_BMAP_FYO"
/note="Grgan: Brain; Vector: pXx- Asc; Site_1: EcoR I;
/note="Grgan: Brain; Vector: pXx- Asc; Site_1: EcoR I;
/note="Grgan: Brain; Vector reyx- Asc; Site_1: EcoR I]
/note="Grgan: Brain; Vector reyx- Asc; Site_1: EcoR I]
/note="Grgan: Brain; Vector reyx- Asc; Site_1: EcoR I]
/note="Grgan: Brain; Vector reyx- Asc; Vector reyx- Asc; Vector reyx- Asc; Vector reyx- reyx
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77.9%;
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Pred. No. 2.7e-44;
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EST 06-MAY-2002

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_	183		Db 3
	1475	416 GCTGGTGCCCCCAGGCCTCTGGGGCTCCAGGCACAACGAACG	Qy 14
	ï	264 GCTCCGCCTGCACAGCAGTCCCTGGCAGGTATATGGTTTTCTTCGGGCCTGTCTCTGCAA 323	DЪ
	1415		0у 13
		233TGAACACCAGCCCACCGCACCTCATGGATTT 263	Db S
	355	296 CCAGGGCTCTGTGGCGGCCCCCGAGGAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCT 135	Qy 1:
	232	189 ACATTGCAGGTTTCGAACAGCAAACCAACAGGTGACAGATGCCT 2	ם מם
	1295		Оу 13
	188	CTGTTCCAACAGCTGCTGGTGAACCATGCAGAGTGCCAATATGTCAGACTCCTCAGGTC	
•	128		טע <u>ו</u>
	1175	16 GATGCCAGGGACTCCCCCGAGGTTGCCCCCCCGCCTACCGCCTACTGGCAAATGCGGCC	0у 11
	1115 68	6 GCCCAGCCTGACTGGGGCTCGGAGGCTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTG	ДУ 105 ДЬ
	1,	ch 9.3%; Score 317.8; DB 13; Length 664; Il Similarity 68.3%; Pred. No. 2.4e-41; 479; Conservative 0; Mismatches 177; Indels 45; Gaps	Query Match Best Local S Matches 479
			ORIGIN
	ord .	/lab host="XL1-Blue" /cloine lib="Baker mouse embryo e7.5" /cloine lib="Baker mouse embryo e7.5" /note="Vector: pCS105; Site_1: Not1; Site_2: Sal1; cDNA /note="Vector: pCS105; Site_1: Not1; Site_2: Sal1; cDNA /note="Vector: pCS105; Site_1: Not1; Site_2: Sal1; Not1 sites using the following 5' adaptor: Size_1: GACCCACGCGTCCG-3'. Size selected for average insert size_1: 8-1: 9 kb. Library constructed by J. Baker (Stanford University) "	
		/tisue_rivab:3902626" /tisue_type="embryo, late gastrula" /dev_stage="embryo, 7.5 dpc"	
		/strain="CD-1" /db xref="taxon:10090" /dDne="MMAGE".400922"	
		~~,	
			FEATURES
		Plate: LLAM12043 row: N column: 7	
	bе	Clone distribution: NCI-CGAP clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: info@image.llnl.gov	
		Institutes of Health	
		gapbs remail.nih.gov Library Preparation: J. Baker (Stanford University) Library Arrayed by: The I.M.A.G.E. Consortium/LLNL	
		Unpublished (1997) Contact: Robert Strausberg, Ph.D.	JOURNAL COMMENT
			AUTHORS
		Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (hases 1 to 664)	REFERENCE
		Mus musculus (house mouse) Mus musculus	SOURCE ORGANISM

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REFERENCE
AUTHORS
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Hayashizaki,Y.
Computational Analysis of Full-Length Mouse cDNAs Compared with
Human Genome Sequences. Mamm. Genome. 12, 673-677 (2001)
                                                                                                                                     Konno,H., Fukunishi,Y., Shibata,K., Itoh,M., Carninci,P., Sugahara,Y. and Hayashizaki,Y.
Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of encyclopedia: real-time sequence Res. 11 (2), 281-289 (2001) Kondo,S., Shinagawa,A., Saito,T., Kiyosawa,H., Yamanaka,I., Kaito,T., Kiyosawa,H., Yamanaka,I., Alizawa,K., Fukuda,S., Hara,A., Itoh,M., Kawai,J., Shibata,K. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: genome-res@gsc.riken.go.jp,
URL:http://genome.gsc.riken.go.jp/
Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K.,
Carninci,P., Shibata,Y., Hayatsu,N., and Hayashizaki,Y.
Itoh,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y.
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new
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wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E.,
wagi,K., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T.,
Matsuura,S., Kawai,J., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A.
and Hayashizaki,Y.
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Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Jag Tel: 81-45-503-9222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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BB618671 RIKEN full-length enriched, 8 days embryo Mus musculus
CDNA Clone 5730412M20 5', mRNA sequence.
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Miyazaki,A., Nomura,K.,
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                                                                                                                                                                                                                                                          TGGTGGCCAGGGTTGTGCAGAGACTCTGCGAGCGCAACGAGAGAAACGTGCTGGCTTTTG
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                                                           TGTTGAGCCGAGTGGGCGACGACCTGCTGGTCTACCTGCTGCACACTGTGCTCTTTATC 592
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/note="Site 1: Sall; Site 2: BamHI; cDNA library was
prepared and sequenced in Mouse Genome Encyclopedia
Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in
RIKEN, Division of Experimental Animal Research in Riken
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URL:http://genome.gsc.riken.go.jp/

Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K.,

Itoh, M., Komo, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y.

Normalization and subtraction of cap-trapper-selected cDNAs to
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BB651920
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Computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001)
Kondo,S., Shinagawa,A., Saito,T., Kiyosawa,H., Yamanaka,I., Alzawa,K., Fukuda,S., Hara,A., Itoh,M., Kawai,J., Shibata,K. and
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Arakawa,T., Carninci,P., Fukuda,S., Furuno,M., Hanagaki,T.,
Hara,A., Hiramoto,K., Hori,F., Ishii,Y., Ito,M., Kawai,J.,
Konno,H., Kouda,M., Koya,S., Matsuyama,T., Miyazaki,A., Nomura,K.,
Ohno,M., Okazaki,Y., Okido,T., Saito,R., Sakai,C., Sakai,K.,
Sano,H., Sasaki,D., Shibate,K., Shinagawa,A., Shiraki,T.,
Sogabe,Y., Suzuki,H., Tagami,M., Tagawa,A., Shiraki,F.,
Takeda,Y., Tanaka,T., Toya,T., Muramatsu,M. and Hayashizaki,Y.
RIKEN Mouse ESTS (Arakawa,T., et al. 2001)
Unpublished (2001)
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/clone lib="RIKEN full-length enriched, ES cells"
/note="Site 1: XhoI, Site 2: BamHI; cDNA library was
prepared and sequenced in Mouse Genome Encyclopedia
Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in
RIKEN, Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                       /strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="C330020G14"
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lab_host="SOLR"
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contributed to prepare mouse tissues. 1st strand cDNA was

ORIGIN

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RESULT 14
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AUTHORS
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                                                         Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Gilbert Smith, Ph.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
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found through the I.M.A.G.E. Consortium/LLML at: http://image.llnl.gov Plate: LLAM8748 row: h column: 07
                                                                                                                                                                                                       National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 866)
                                                                                                                                                                                                                                                                                                                                Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                 B66 bp mRNA linear EST 21-JUL-2000
601117728F1 NCI CGAP Lu29 Mus musculus cDNA clone IMAGE:3588614 5',
                                                                                                                                                                                       Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                 NIH-MGC http://mgc.nci.nih.gov/
                                                                                                                                                                                                                                                                                                                                                                                            BE371943.1 GI:9317215
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                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 715)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC) Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 GCCTGTTTGACTTCCTGCACTTCCTGCGTCACAGTGTCGTAAAGATTGGTGACAGGT 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BE396925 TL5 DP WANTE TOWN SECTION OF THE SECTION O
Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BE396925.1 GI:9342290
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/note="Organ: lung; Vector: pCMV-SPORT6; Site_1: Sall;
Site_2: Not1; Cloned unidirectionally. PrimeT: Oligo dT.
Library constructed by Life Technologies. Investigator
providing samples: Gilbert Smith, NIH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone="IMAGE:3586614"
/tissue_type="spontaneous tumor, metastatic to mammary.
Stem_cell_origin."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mol_type="mRNA"
/strain="Czech II"
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Pred. No. 4.4e-33;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          y Match 7.4%;
Local Similarity 93.9%;
                                        1871 TCATCCCCAAGCCTGACGGGCTGCGGC 1897
                                                                                                                                                                                             1813 GCAGAGGTCAGGCATCGGG--AAGCCAGGCCCGCCCTGCTGACGTCCAGACTCCGCT 1870
                                                                                                                                                                                                                                                                                                                     1754 TGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCT-GTCGGAA 1812
                                                                                                                                                                                                                                                                                                                                                                                                                                                        1694 CGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAGCAAGT 1753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1575 AGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTGGCCAAGTT 1634
                                                                                                                           612 GCAGAGGTCAGGCATCGGGGAAAGCCCAGGCCCTGCCTGACGTCCA---ACTCCG 668
669 TTCATCCCAAAGCTGAAGGCTGCGGC 695
                                                                                                                                                                                                                                                              552 TGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTAGTCGGAA 611
                                                                                                                                                                                                                                                                                                                                                                                                         492 CGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGTGTCTGGAGCAAGT 551
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cDNA Library Preparation: Ling Hong/Rubin Laboratory

cDNA Library Preparation: Ling Hong/Rubin Laboratory

cDNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can be

found through the I.M.A.G.E. Consortium/LLNL at: image.llnl.gov

Plate: LLCM294 row: c column: 03

High quality sequence stop: 634.

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
//organism="Homo sapiens"
//db_xref="raxon:9606"
//db_xref="taxon:9606"
//db_xref="taxon:9606"
//clone="IMAGB:3621050"
//tissue_type="Burkitt lymphoma"
//lab_host="DH10B (phage-resistant)"
//clone_lib="NIH MGC 8"
//clone_lib="NIH MGC 8"
//clone_lib="NIH MGC 8"
//clone_lib="NIH MGC 8"
//clone_rogan: lymph; Vector: pOTB7; Site_1: XhoI; Site_2:
ECORI; CDNA made by oligo-dT priming. DTrectionally
cloned into EcoRI/XhoI sites using the following 5'
adaptor: GGCACGAG (G). Size-selected >500bp for average
insert size 1.8kb. Library constructed by Ling Hong in
the laboratory of Gerald M. Rubin (University of
California, Berkeley) using ZAP-cDNA synthesis kit
(Stratagene) and Superscript II RT (Life Technologies)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 252.2; DB 10; Length 715; Pred. No. 1e-30; 0; Mismatches 13; Indels 7;
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Search completed: March 1, 2004, 03:42:19 Job time : 5409.07 secs

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Result
No.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
        3411
3407.8
3397.6
3397.6
3396
                                                                                                                                                                                                                                                                                                                      Score
        IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                    Match Length DB
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16548.779 Million cell updates/sec
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11:
12:
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/cgn2_6/ptodata/2/pubpna
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /cgn2_6/ptodata/2/pubpna/USO7_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/USO7_NEW_PUB.seq:*
/cgn2_6/ptodata/2/pubpna/USO6_NEW_PUB.seq:*
/cgn2_6/ptodata/2/pubpna/USO6_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/USO7_NEW_PUB.seq:*
/cgn2_6/ptodata/2/pubpna/PCTUS_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/USO8_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/USO8_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/USO8_PUBCOMB.seq:*
/cgn2_6/ptodata/2/pubpna/USO8_PUBCOMB.seq:*
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//ggn2_6/ptodata/2/pubpna/US09C_PUBCOMB.seq:*
//ggn2_6/ptodata/2/pubpna/US09C_PUBCOMB.seq:*
//ggn2_6/ptodata/2/pubpna/US10A_PUBCOMB.seq:*
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//ggn2_6/ptodata/2/pubpna/US10C_PUBCOMB.seq:*
//ggn2_6/ptodata/2/pubpna/US10C_PUBCOMB.seq:*
//ggn2_6/ptodata/2/pubpna/US10C_PUBCOMB.seq:*
//ggn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
//ggn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
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3453
13766
                                                                                 US-09-733-294A-3

US-09-990-080-1

US-09-843-676-224

US-09-953-052-1

US-10-053-758-224
                      US-10-208-243-1
US-10-054-295-224
US-10-054-611-224
US-10-105-963-1
US-10-044-692-1
US-10-044-539-1
US-10-205-629-1
US-10-105-616-1
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Sequence 32, Appli
    Sequence 32,
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ALIGNMENTS

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                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 3
LENGTH: 4015
TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 3, Application US/09733294A Patent No. US2002004558BA1 GENERAL INFORMATION:
                                                                                                                                                                                         Matches 3411; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/09/733,294A
CURRENT FILING DATE: 2000-12-07
PRIOR APPLICATION NUMBER: 09/572,423
PRIOR FILING DATE: 2000-05-16
NUMBER OF SEQ ID NOS: 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Brett P. Monia
APPLICANT: William Gaarde
APPLICANT: Susan M. Freier
APPLICANT: Edward V. Wancewicz
TITLE OF INVENTION: ANTISENSE MODULATION OF TERT EXPRESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILE REFERENCE: ISPH-0527
                                                                                                                                                                                                                                                                              FEATURE: CDS
NAME/KEY: CDS
LOCATION: (56)...(3454)
113 GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTG 172
                                                                 61 GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCCTGGGGGCCCCAGGGGCTGGCGGCTGGTG
                                                                                                               53 GCGATGCCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCGCAGCCACTACCGC 112
                                                                                                                                              100.0%; Score 3411; D
100.0%; Pred. No. 0;
Tative 0; Mismatches
                                                                                                                                                                                  0;
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1201 CACGCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTC 1260	1141 CCCCGCCTGCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAAC 1200	1081 CTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGGAGGTTG 1140	1021 CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1080	961 CCTTGTCCCCCGGTGTACGCCGAGACCAAGCAGTTCCTCTACTCCTCAGGCGACAAGGAG 1020	901 GGCCGCCAGCACGACGGGGCCCCCATCCACATCGCGGGCCACCACGTCCCTGGGACACG 960	841 GAAGAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACCCCACCCA	781 GGCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGGC 840	721 CGTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCCTTGGGCAGGGGTCCTGGGCCCACCCG 780	661 GGTGCGAGGAGGCGCGGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGG 720	601 GAACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGGTCCCCCTGGGCCTGCCAGCCCCG 660	541 GCTGCCACTCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGC 600	481 GIGCIGGIGGCICCCAGCIGCGCCTACCAGGIGTGCGGCCGCCGCCGCTGTACCAGCICGGC 540	421 CIGCTGCGCCGCGTGGGCACGACGTGCTGGTGACCTGCTGGCACGCTGCTGTT 480	361 CGCAGCTACCTGCCCAACACGTGACCGACGCACTGCGGGGGGACGGGGCGGGGCTGGGGGCTG 420	301 GGCTTCGCGCTGCTGGACGGGGCCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCAGCGTG 360	241 CTGGTGGCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGGAGCGCGGAAGAACGTGCTGGCCTTC 300	181 TGGGACGCACGGCCGCCCCCCCCCCCCCCTCCTTCCGCCAGGTGTCCTGCCTG	
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AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 3463
                                                                                                       CTCAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGGTCACTCAGGACAGCC
                                                                                                                                                                                              CTCAAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCC 3300
                                                                                                                                                                                                                                      GGCGCCGCCGGCCTCTGCCCTCCGAGGCCGTGCAGTGCCTGTGCCACCAAGCATTCCTG
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US-09-990-080-1
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Patent No. US20020102686A1
GENERAL INFORMATION:
APPLICANT: Morin, Gregg B.
APPLICANT: Geron Corporation
APPLICANT: Geron Corporation
TITLE OF INVENTION: Human Telomerase Catalytic Subunit Variants
FILE REFERENCE: 018/258c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 100.0%; Score 3411;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 3411; Conservative 0; Mismatches
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FEATURE:
FEATURE:
NAME/KEY: CDS
LOCATION: (56)..(3454)
OTHER INFORMATION: human telomerase reverse transcriptase (hTRT)
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                              GAACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCG
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1681 TTCTTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTTCTACCGGAAGAGT 1740 	621 ATCCTGGCCAAGTTCCTGCACTG	561 CTGCGCAGGAGCCCAGGGTTGGGCTGTGTTTCCGGCCGCAGGACCACCGTTTGCTAGAGAGAG	501 CATGCCAAGCTCTCGCTGCAAGAGCTGACGTGGAAGATGAGCGTGGGACTGCGCTTGG	441 TCCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAG	CAGGTGTACGGCTTCGTGCGGCCTGCCTCGGCTGGTGCCCCAGGCCTCTGGGGCCTCTGGGGCTGCTGCGCTGGTGCTCCCAGGCCTCTGGGGCTGCGGCTGGTGGTGCCCCAGGCCTCTGGGGCCTCTGGGGCTGCTGGTGGTGCCCCAGGCCTCTGGGGGCTGGGGTGGTGCCCCAGGCCTTGGGGGCCTGGGGGCTGGGTGGG	AGGACACAGACCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCCTGG	G) G)				CTTCCTACTCAGCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1	<u> </u>		841 GAAGAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	781 GGCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCC 840	CGTGGCGCTGCCCTGAGCCGGAGCGGACCCCGTTGGGCAGGGGTCCTGGGCCCACCCG	661 GETGCGAGGAGGGGGGGGGGAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGG 720
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2761 GTTCAGATGCCGGCCCACGGCTATTCCCCTGGTCGGCCTGCTTGGATACCCGCACC 2820 2813 GTTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTTGGTGGATACCCGGACC 2872 2813 GTTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTTGGTGGATACCCGGACC 2872 2821 CTGGAGGTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACC 2880		2641 GCGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGTGAAC 2700 [2581 GACGGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCCTCACCTACCCAC 2640	2521 CTGCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGG 2580	2461 ATCAGGGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACG 2520	2401 GAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGC 2460	2341 CTGCAGGAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCTGAAT 2400	2281 AAGAGCCACGTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTCGTGGCTCAC 2340	2221 TGCGTGCGTCGGTATGCCGTGGTCCAGAAGGCCGCCCATGGGCACGTCCGCAAGGCCTTC 2280	2161 ATCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCAACCCCAGAACACGTAC 2220	2101 CAGGACCCGCCGCCTGAGCTGTACTTTGTCAAGGTGGATGTGACGGGCGCGTACGACACC 2160	2041 GTGCTGGGCCTGGACGATATCCACAGGCCTGGGGGCACCTTCGTGCTGCGTGTGCGGGCC 2100	1981 GCACTGTTCAGCGTGCTCAACTACGAGCGGGCGCGCGCCCCGGGCCTCTGGGGGCCCTCT 2040	1921 GTGGGAGCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAG 1980 	1861 AGACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTC 1920	1801 GAGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	1741 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 1800

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Patent No. US20020164786A1
GENERAL INFORMATION:
                                                                           COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IRM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/843,676
FILING DATE: 26-Apr-2001
CLASSIFICATION DATA:
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
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TITLE OF INVENTION: No. US20020164786A1el Telomerase
NUMBER OF SEQUENCES: 225
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Cech, Thomas R.
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                  APPLICATION NUMBER: US/08/854,050 FILING DATE: 09-MAY-1997
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STATE: California
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Morin, Gregg B.
Harley, Calvin
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Nakamura, Toru
Chapman, Karen B.
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FILING DATE: 18-APP.-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT.196
ATTORNEY/AGENT INFORMATION:
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REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002930US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
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Pred. No. 0;
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1501 CATGCCAAGCTCTCGCTGCAGGAGCTGACGTTGGAAGATGAGCGTGCGGACTGCGCTTGG 1560	1321 GAGGAGACACCACCGICGCCIGGTGCACCTCCTCCGCCAGCACACCACCCCTGG 1380 1373 GAGGAGACACACACCCCCGTCGCCTGGTGCACCTCGCCAGCACACCACCCCTGG 1432 1381 CAGGTGTACGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCCAGGCCTCTGGGGC 1440	193 CCCCGCCTGCCCAGCCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGAAAC 1 201 CACGCGCAGTGCCCCTACCGGGTGCTCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTC 1 201 CACGCGCAGTGCCCCTACGGGGTGCTCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTC 1 201 CACGCGCAGTGCCCCTACGGGGTGCTCTCCTCAAGACGCACTGCCGCTGCGAGCTGCGGTC 1 253 CACGCGCAGTGCCCCTACGGGGTGCTCCTCCAAGACGCCCAGGGCTCTGCTGCGGTC 1 261 ACCCCAGCAGTGCCCGTTGTGCCCCGGGAGAAGCCCCAAGGGCTCTGTGGCCGCCCCCGAG 1 313 ACCCCAGCAGCCGGTGTCTTGTGCCCGGGAAAGCCCCCAAGGGCTCTGTGGCCGCCCCCGAG 1 313 ACCCCAGCAGCCGGTGTCTTGTGCCCCGGGAAAGCCCCCAAGGGCTCTGTGGCCGCCCCCGAG 1	COTACCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGAGCCTGAGCCTGAGCCTGAGCCCTGAGGCCCAGCCCTGAGCCCTGAGGCCCAGCCCTGAGCAACCCTGAGGCCCAGGCAACCCTTGATTCTGGATTCCAGGCACCCTGGATGCCAGGGACCCTGTTTCTGGATCCAGGGACCCTGGATGCCAGGAACCCAGGGACCCTGTTTCTGGAATGCCAGGAACCCCTGGATGCTAGAAATGCGAGCCCCTGTTTTCTGGAACCCCAGGGACCCCTGTTTTCTGGAACCCCAGGGCACAAATGCGGCCCCTGTTTTCTGGAAATGCGAGCCCCTGTTTTCTGGAACCCCAAGGCACCCTGTTTTCTGGAACCCCAAGGCACCCTGTTTTCTGGAACCCCAAGGCACCCTGTTTTCTGGAACCCCAAGGCACCCTGTTTTCTGGAACCCCAAGGCACCCTGTTTTCTGGAACCCCAAGGCACCCTGTTTTCTGGAACCCCAAGGCACCCTGTTTCTGGAACCCCAAGGCACCCTGTTTTCTGGAACCCCAAGGCACCCTGTTTTCTGGAACCCCAAGGCACCCTGTTTCTGGAACCCCAAGGCACCCTGTTTCTGGAACCCCAAGGCACCCTGTTTCTGGAACCCCAAGGCACCCTGTTTCTGGAACCCCTGTTTCTGGAACCCAAGGCACCCTGTTTCTGGAACCCAAGGCACCCTGTTTCTGGAACCCCAAGGCACCCTGTTTCTGGAACCCCAAGGCACCCTGTTTTCTGGAACCCAAGGCACCCTGTTTCTGGAACCCAAGGCACCCTGTTTCTGGAACCCAAGGCACCTGTTTCTGGAACCAACACAACACAACAACAACAACAACAACAACAAC	TTTGAAGGTGCCCACTCCCACCCCCACCCCCACCCCCACCCCCACCCCCACCCCCACCCC	CGGGCCTGGAACCATAGCGTCAGGAGGCCGGGGTCCCCCTGGGCCTGG
Qy 2581 GACGGGCTGCTCTGGGTTTGGTTGATGACACCTCACCTC	2453 2461 2513 2521 2521	Db 2273 Tdcdfdcdfddfddfddfddfdddddddddddddddddd	Oy 2101 CAGGACCCGCCCTCAGCTCTACTTTGTCAAGGTGGATGTACGGGGGGGTACGACACC	1973 GTGCAC 1981 GCAC 2033 GCAC 2041 GTGC 2093 GTGCAC 2093 GTCAC	1681 1733 1741 1793 1801 1853 1861 1913

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US-09-953-052-1
, Sequence 1, Application US/09953052
; Patent NO. US20020173476A1
; GENERAL INFORMATION:
; APPLICANT: Cech, Thomas R.
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PACENTIN Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/953,052
                                                                                                                                                                                                                                                                                                                                                        Chapman, Karen B.
Morin, Gregg B.
Meriey, Calvin B.
Andrews, William H.
TITLE OF INVENTION: Antisense Compositions for Detecting and
                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
STREET: Two Embarcadero Center, Eighth Floor
CITY: San Francisco
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Nakamura, Toru
Chapman, Karen B.
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                                             Version
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 3411;
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SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Parent, Annette S.
REGISTRATION NUMBER: 42,058
REFERENCE/DOCKET NUMBER: 015389-003600US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
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                   61 GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTG 120
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                                                                                                          GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCCAGGGCTGGCGGCTGGTG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: CDS
LOCATION: 56..3454
OTHER INFORMATION:
                                                                                                                                                                                                 CAGCGCGGGACCCGGCGGCTTCCGCGCGCGCGCGCGCAGTGCCTGGTGCCTGCTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ייתבא ואיטאאבTION: /product= "human telomerase reverse transcriptase (hTRT)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: nucleic acid
STRANDEDNESS: single
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FILING DATE: 19-NOV-1997
APPLICATION NUMBER: US 08/974,584
FILING DATE: 19-NOV-1997
APPLICATION NUMBER: WO PCT/US97/17618
FILING DATE: 01-OCT-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 08/911,312 FILING DATE: 14-AUG-1997 APPLICATION NUMBER: US 08/912,951 FILING DATE: 14-AUG-1997 APPLICATION NUMBER: US 08/915,503 FILING DATE: 14-AUG-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: <Unknown>
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
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CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 4015 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: WO PCT/US97/17885 FILING DATE: 01-OCT-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 06-MAY-1997
APPLICATION NUMBER: US 08/854,050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US 08/846,017 FILING DATE: 25-APR-1997
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100.0%; Pred. No. 0,
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48	321 GAGGAGGACACAGA 373 GAGGAGGACACAGA	1261 ACCCCAGCAGCCGG	201 CACGCGCAGTGCCCC	141 CCCCGCCTGCCCCAG	.081 CTCGTGGAGACCATC	021 CAGCTGCGGCCCTCC	961 CCTTGTCCCCGGTV	901 GGCCGCCAGCACCA(953 GGCCGCCAGCACCA(841 GAAGAAGCCACCTC	781 GGCAGGACGCGTGG	721 CGTGGCGCTGCCCC	661 GGTGCGAGGAGGCG	601 GAACGGGCCTGGAA	541 GCTGCCACTCAGGC	481 GTGCTGGTGGCTCC	421 CTGCTGCGCCGCGT	361 CGCAGCTACCTGCCC 413 CGCAGCTACCTGCCC	301 GGCTTCGCGCTGCTV
сетесевесстесствсесс	CCCCGTCGCCTGGTGCAGC	rgtctgtgcccgggagaagc 	CCTACGGGGTGCTCCTCAAGACGCACTGCC		CTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCC	TTCCTACTCAGCTCTCTGA	TACGCCGAGACCAAGCACT TACGCCGAGACCAAGCACT	GGCCGCCAGCACCACGCGGGCCCCCCATCCACATCGCGGCCACGGCCACGCGCCACGCCACCACCACCACACATCGCGGCCACCCAC	CACCTCTTTGGAGGGIGCGCTCTCTGGCACGCGCCACTCC	.cgcgregaccgagrgaccgregrtrictgrgrgrgr 	CGTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGG) 	AACGGGCCTGGAACGATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGC	GCTGCCACTCAGGCCGGCCCCCGCCACACGCTAGTGGACCCCGAAGG	CAGCTGCGCCTACCAGGTGT 	3GGCGACGACGTGCTGGTTC 	ACCTGCCAACACGGTGACCGACTGCGGGGGAGGCGGGG 	3GACGGGGCCCGCGGGGGCC
ствсвесевстветвесесськавести	GAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACACAGCAGCAGCAGCAGCAGCAGCAGCAGCA	.cagccggtgtctgtgcccgggagaagccccagggctctgtggcggccc 	CGCTGCGAG	GTTTCTGGAGCTO	GATGCCAGGGACTCCCCG	CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCTCTGAGGCCCAGCCTGACTGGCGCTCTCTGAGGCCCAGCCTGACTGGCGCCTCT	CCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGA	.ceceeccaccaceteccteeac	S = S	GTGTGGTGTCACCTGCCAGACC)TTGGGCAGGGGTCCTGGGCC 	GGTGCGAGGAGGCGCGGGGCAGTGCCAAGCCGAAGTCTGCCGTTGCCCAAGAGAGC	GGGTCCCCCTGGGCCTGCCA	GTGGACCCCGAAGGCGTCTO	GTGCTGGTGGCTCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGG	CTGCTGCGCCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCG	TGCGGGGGAAGCGGGGCGTG	GGCTTCGCGCTGCTGGACGGGGGCCCGCGGAGGCCTTCACCACCAGCGTG
TGGGGC 144		CCCCGAG 1320 CCCCGAG 1372			CGCAGGTTG 1140 	TCGGAGG 1080 TCGGAGG 1132	CAAGGAG 1020 CAAGGAG 1072	GGACACG 960 GACACG 1012	CCATCCGTG 900	ACCCGCC 840 ACCCGCC 892	CCACCCG 780 CACCCG 832	GCCCAGG 720 CCCAGG 772	AGCCCCG 660 AGCCCCG 712	GCGTCTGGGATGC 600 GCGTCTGGGATGC 652	GCTCGGC 540 CTCGGC 592	GCTCTTT 480 GCTCTTT 532	GGTGGGGGCTG 420	CAGCGTG 360
 Q	Ag Ag	QQ VQ	4d 4d	, p. 6	dd dd	B &	d d d	B &	D C	S & &) B &	? B &	B &	. B. 6	S B 8	}	D	 2: B
	7 2401 GAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGC	2341 crechega,ccheccecre,kassa,reccercerchacked,actecreccre,acte	2333 2333	2273	2161 2213	2153	2041	1981	1973	1913	1853	1741	1733	1673	1613	1 5 5 6	1493	1433

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Sequence 224, Application US/10053758
Publication No. US20030032075A1
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3061 CCATTTCATCAGCAAGTTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACG 3120
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Nakamura, Toru
Chapman, Karen B.
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                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 3411; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (415) 576-0300 INFORMATION FOR SEQ ID NO: 224: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/10/053,758
FILING DATE: 18-Jan-2002
CLASSIFICATION: 536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
ATTORNEY/AGENT INFORMATION:
NEMET ADDITS DESIGNED
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Andrews, William H.

TITLE OF INVENTION: NO. US20030032075A1s1 Telomerase
NUMBER OF SEQUENCES: 225
CORRESPONDENCE ADDRESS:
ADDRESSE: Townsend and Townsend and Crew LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: line; MOLECULE TYPE: cDNA
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
113
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                                                                                                                                                                                                                                                      61 GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTG 120
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                                                                                                                                                                                                                                                                                                                                            LOCATION: 56..3454
OTHER INFORMATION: /product= "hTRT"
/note= "human telomerase reverse
transcriptase (hTRT) catalytic protein
component"
                                                                                      CAGCGCGGGGACCCGGCGGCTTTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCCCC
                                                                                                                                        GAGGTGCTGCCGCTGGCCACGTTCGTGCGGCGCCTGGGGGCCCCAGGGCTGGCGGCTGGTG
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LOCATION:
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STRANDEDNESS: single
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CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Apple, Randolph T. REGISTRATION NUMBER: 36,4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: US/08/854,050
FILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/851,843
FILING DATE: 06-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 4015 base pairs
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100.0%; Pred. No. 0;
tive 0; Mismatches
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RESULT 5 US-10-053-758-224

APPLICANT: Cech, Thomas R.

Morin, Gregg B

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CCCGGTGTMCCCGAGAGCACTTCCTCCAGCGCACCAGGAGCAGAGAG 1072 CCGGTGTMCCCCAAGCACTTCCTCCTCCTCCTCCTCAGCAGAGC 1072 QY 2101 GCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1080	1013 CCTTGTGC 1021 CAGCTGCG 1073 CAGCTGCG 1073 CAGCTGCGA 1074 CTCGTGGA 1133 CTCGTGGA 1141 CCCCGCCT 1141 CAGCGCGA
ACACG 1012 AGGAG 1020 AGGAG 1020 AGGAG 1072 AGGAG 1072 AGGAG 1080 AGGAG 1132 AGGAG 1140 AGGAG 1140 AGGAG 1192 AGGAG 1250 AGGAAC 1250 AGGAAC 1252 AGGAAC 1252 AGGAAC 1250 AGGAAC 1252 AGGAAC 12	CGCCAGCACCACGAGGCCCCCATCCAC TGTCCCCCGGTGTACGCCGAGACCAAGCA TGTCCCCCGGTGTACGCCGAGACCAAGCA TGTCCCCCGGTGTACGCCGAGACCAAGCA TGTCCCCCGGTGTACGCCGAGACCAAGCA TGTCCCCCGGTGTTACGCCAGGCTCTCT TGTGCGGCCTCCTTCCTACTCAGCTCTCT TGTGAGACCATCTTTCTGGGTTCCAGGCC TGGCTGCCCAGCGCTACTGGCAAATGCG TGGCTTGCCCAGCGCTACTGGCAAATGCG TGGCCTGCCCCAGCGCTACTGGCAAATGCG TGCCTGCCCAGCGCTACTGGCAAATGCG TGCCTGCCCCAGCGCTACTGGCAAATGCG TGCCTGCCCCAGCGCTACTGGCAAATGCG TGCCTGCCCCAGCGCTACTGGCAAATGCG TGCCTGCCCCAGCGCTACTGGCAAATGCG TGCCTGCCCAGCGCTACTGGCAAATGCG
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AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 3463
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RESULT 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 3411;
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TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: CDS
LOCATION: (56):.(3454)
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GAACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCG
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100.0%; Pred. No. 0;
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CCACGTTTCAAAAGAA		GCGCAGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTG	CAGGCACAACGACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCC TGCCAAGCTCTCGCTGCAGGAGCTGACGTGAAGATGAGCGTGCGGGAC	ACGGCTTCGTGCGGGCCTGCCTGCGCCGGCT	ACCCAGCAGCCGGTTCTTTTTCCCGGGAGAAGCCCCAGC GAGGAGGACAGACCCCCGTTCGCCTGGTGCAGCTGCTC GAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTC GAGGAGGACACAGACCCCCGTCGCTGGTGCAGCTGCTC	CGCGCAGTGCCCCTACGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGT	GIGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTT CGCCTGCCCCAGCGCTACTGGCAAATGCGGCCCTGTTTCTGGAAGCTGCTTGGGAA [CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGA	CTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGA 		CTTTTGAAGGTGCGCTCTCTGGCACGC	CCCTGAGCCGGAGCGGACGCCCGT TGGACGAGTGACGTGTTTCTG	GGTGCGAGGAGGCGCGGGGGCAGTGCCAAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGG
CTTTTTCTAC	GTACGTCGTCGAGCTGG CAGGCTCTTTTTCTACC	GGCAGAGCACCGTCTG 	CTGACGTGGAACATGAGCTGCGCAACACTGCGCAACACTGCAACATGAGCCTGCGGAACACTGCGAACATGAGCCTGCGCAACACTGCGCAACACTGAGCCTGCGCAACACTGAGCCTGCGCAACACTGAGCCTGCGCAACACTGAGCCTGCGCAACACTGAGCCTGCGCAACACTGAGCCTGCGCAACACTGAGCCTGCGCAACACTGAGCCTGCGCAACACTGAGCCTGCGCAACACTGAGCCTGCAACACTACTGAACACTGAACACTGCAACACTGCAACACTGCAACACTGAACACTGAACACTGAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACTGCAACACACAC	GAAGTTCAT	CCCAGGGCTGTGGCGGCCCCGAG	GCACTGCCGCTGCGA GCACTGCCGCTGCGA GCACTGCCCGCTGCGA	GATGCCAGGGACTCCC CCTGTTTCTGGAGCTG CCTGTTTCTGGAGCTG	GATGCCAGCCTGACTGGC	CCTCTACTCCTCAGGC CTCTACTCCTCAGGC	ACCACGTCCC		CETTGGGCAGAGGTCCTGGGCCAACCC CTGTGTGGTGTGTACCTGCCAGACCCGC	TCTGCCGTTGCCAAC
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Publication No. US20030044953A1
GENERAL INFORMATION:
APPLICANT: Cech, Thomas R.
                                                                                                                                                                                                                                                 Andrews, William H.

TITLE OF INVENTION: No. US20030044953Alel Telomerase NUMBER OF SEQUENCES: 225
CORRESPONDENCE ADDRESS:
ADDRESSE: Two Embarcadero Center, 8th Floor STREET: Two Embarcadero Center, 8th Floor STATE: California COUNTRY.
                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/10/054,295
FILING DATE: 18-Jan-2002
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/854,050
FILING DATE: <Unknown>
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                                                                                                                                                                                                                                             COUNTRY: United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Application US/10054295
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Morin, Gregg B.
Harley, Calvin
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Nakamura, Toru
Chapman, Karen B.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO: 224: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Apple, Randolph T.
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002930US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-ARR-1997
APPLICATION UNMBER: US 08/844,419
FILING DATE: 18-ARR-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-CCT-1996
ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: CDNA FEATURE:
  593 GÉTGCCACTCAGGCCCGGCCACACACGCTAGTGGACCCCGAAGGCCGTCTGGGATGC
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                                    541 GCTGCCACTCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGC 600
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                                                                                                               GTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGC 540
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: CDS
LOCATION: 56..3454
OTHER INFORMATION: /product= "hi
/note= "human telomerase reverse
                                                                                                                                                    CGCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGCGTGGGGGGCTG
                                                                                                                                                                                                                                                                                                                                                                                 CTGGTGGCCCGAGTGCTGCAGAGGCTGTGCGAGGCGCGCGAAGAACGTGCTGGCCTTC
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                                                                           GTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGC
                                                                                                                                                                                      CGCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGCGTGGGGGGCTG
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STRANDEDNESS: single
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100.0%; Pred. No. 0;
rative 0; Mismatches
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	1621 ATCCTGGCCAAGTTCCTGCACTGACTGATGAGTGTGTACGTCGAGCTGCTCAGGTCT 1680	1561 CTGCGCAGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAG	1501 CATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCTGCGGGGACTGCGCTTGG 1560	1441 TCCAGGCACAACGAACGCCCCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAG 1500	1381 CAGGTGTACGGCTTCGTGCGGGCCTGCCTGCGCCGGCTGGTGCCCCCAGGCCTCTGGGGC 1440	1321 GAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCAGCAGCAGCCCCTGG 1380	1261 ACCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGGCCCCCGAG 1320	1201 CACGCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCGGTC 1260	1141 CCCCGCCTGCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAAC 1200	1081 CTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGTTG 1140	1021 CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1080	961 CCTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAG 1020	901 GGCGCCAGCACCACGCGGGCCCCCATCCACATCGAGGCCACCACGTCCCTGGGACACG 960	841 GAAGAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA	781 GGCAGGACGGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCC 840	721 CGTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCG 780	661 GGTGCGAGGAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCAGG 720	601 GAACGGGCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCTGGGCCTGCCAGCCCCG 660
Ş	B &	S B 7	8 B 1	Q B &	Q B .	S B &	? B :	8 B 1	δ <u>β</u> ;	δ β <i>1</i>	\$ B t	₹ B	S B &	S B &	5 B 6	5 B 8	, B &	유 성
2761 GTTCAGATGCCGGCCCACGGCCTATTCCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACC 2820	701 IIU-U-U-MARKAN INGILMAKAN INGILMAKAN U-MARKAN U-MARKA	693 GCGADAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGCTGGTGAAC	641 GCGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGGC			STOCK STATE OF THE	393 CTGCAGGAGACCAGCCCGCTGAGGGATGCCGTCGTCATCGAGGAGAGCTCCTCCCTGAAT				161 ATCCCCCAGGACAGGCTCACGGAGGTCATCATCATCATCATCATCAAACCCCAGAAACACGTAC	033 GTGCTGGGCTGGAGCTGTACTTTGTCAAGGTGGATGTAAGGGCGGGTACGACCC	2011 GTGCTGGGCCTCGGATATCCACAGGCCTGGCGCACCTTCGGCGTGCGGGCCC 2100	973 GTGGGAGCCAGAAACGTTCCGCAGAGAAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAG		GAGCTGTCGSANGCAGAGGTCAGGCAGGCATTCGGGAAAGCCAGGCCCCCCCC	GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGCACTTGAAGAGGGTGCAGCTGCGGGTILLIGGAGCACTTGGAGCACTGCAGCTGCAGCTGCAGCTGCAGCAGCAGCAGTAGAAGAGGATGCAGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCTGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAG	

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RESULT 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 224, Application US/10054611 Publication No. US20030059787A1 GENERAL INFORMATION:
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/054,611
FILING DATE: 18-Jan-2002
                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                         Andrews, William H.
TITLE OF INVENTION: No. US20030059787A1el Telomerase
NUMBER OF SEQUENCES: 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3361 AACCCGGCACTGCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 3411
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ADDRESSEE: Townsend and Townsend and Crew LLP
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                                                                                                                                                                                                     CITY: San Francisco
STATE: California
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                                                                                                                                                                                     COUNTRY: United States of America
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Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 224: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
FILING DATE: 01-OCT-1996
ATTORNEY/AGENT INFORMATION:
NAME: Apple, Randolph T.
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002930US
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/854,050
FILING DATE: «Unknown»
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
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TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
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    533
                                     481 GTGCTGGTGGCTCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGC
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  GTGCTGGTGGCTCCAGCTGCGCCTACCAGGTGTGCGGGCCGCCGCTGTACCAGCTCGGC
                                                                                                                                                                                                                                                                                   GECTTCGCGCTGCTGGACGGGGCCCGCGGGGGCCCCCCCGAGGCCTTCACCACCAGCGTG 360
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                                                                                                                                                               CGCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGCGTGGGGGGCTG
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LOCATION: 56..3454
OTHER INFORMATION: /product= "hTRT"
/note= "human telomerase reverse
transcriptase (hTRT) catalytic protein
component"
                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: nucleic acid
STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                               CTGGTGGCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGGCGGAAGAACGTGCTGGCCTTC
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Pred. No. 0;
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2701 TTGCGGAAGACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGGCTTTT 2760	1672 Qy	1813 CIGCGCAGAGCICAGGGGTTGGCTGCGCAGAGCACCGTCTGCGTGAGGA	Ę
261 GCGAAAACCTTCCTCAGGACCCTGGTCCCAGGTCTCCTGAGTATGGCTGCGTGGTGAAC 2700		61 CTGCGCAGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTG	\$ 8
GACGGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGGTGACACCTCACCTCACCCCAC	CTTGG 1560	1501 CATGCCAAGCTCTCGCTGCAGGAGCTGACGTAGAAGATGAGCGTGCGGACTGCGG 	유 성
	GGGAAG 1500 CY Db 	1441 TCCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAA 	A A
	1440	1381 CAGGTGTACGGCTTCGTGCGGGCTGCCTGCGGCCGGCTGGTGCCCCCAGGCCTCTGGGGC 	B 8
GAGGCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGGGCC	CCTGG 1380	1321 GAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCACCAGCAGCAGCAGCAGCAGCAGC	B 8
CTGCAGGAGACCAGCCGCTGAGGGGATGCCGTCGTCATCGAGCAGGCTCCTCCTGAAT	CGAG 1320 CGAG 1372	1261 ACCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAGCCCCAGGGCTCTGTGGCGGCCCCC	유 성
ARGAGCA-CGTTCTA-CCTTGA-CA-GACCTCCA-GCCGTA-CATGCGA-CA-GTTCGTGGCTCA-C	CY SCGGTC 1260 Db SCGGTC 1312	1201 CACGCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTG	40 VQ
TGCGTTCGTCAGTATGCCGTGGTCCAGAAGGCCGCCATGGGCAGGTCGGCAAGGCCTTC	C 1200 C 1252	1141 CCCCGCCTGCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAA [유
ATCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAACACCCCAGAACACGTAC	TG 1140	1081 CTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCGCAGGT	Å Å
CAGGACCCGCCGCCTGACCTGTACTTGTCAAGGTGGATGTACCGGGCGCGTACCACACCCCCCCC	Troggagg 1080 Db	1021 CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCCTCTGAGGCCCAGCCTGACTGCCGCCTCCTTCCT	A 6
GTGCTGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCGGTGTGCGGGGCGCGCTTGGCGTGCGGGGCGGC	G 1020 - G 1072	961 CCTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGA	A 4
GACTGTTCAGCGTGCTCAACTACGAGCGGGGGGGCCCCCGGGCCTCCTGGGCGCCTCT	960	901 GGCCGCCAGGACCACGCGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACG	8
GTGGGAGCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAG	900	841 GAAGAAGCCACCTCTTTGGAGGGTGCGCTCTTGGCACGCGCCACTCCCATCCGTG	g 8
AGACTCGCTTCATCCCAAGCCTGACGGCCTGCGGCCGATTGTGAACATGGACTACGTC	CC 840 CC 892	781 GGCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGGGTGTCACCTGCCAGACCCG	g &
Halligic Gaad Cagader Cage Cage Coace Coac	CCCG 780 	721 CGTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCTTTGGGCAGAGGGTCCTGGGCCCA	g Q
GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG	CAGG 720 CAGG 772	661 GGTGCGAGGAGGCGGGGGGGAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCC	dd Vy
1681 TTCTTTTATGTCACGGAGACCACGTTTCAAAAGAACAGGCTCTTTTCTACCGGAAGAGT 1740 	4 6 6 7 1 7 1 7 1 1 1 1 1 1 1 1 1 1 1 1 1	601 GAACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAG	g Q
1621 ATCCTGGCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGTCT 1680 	QATGC 600 QY GATGC 652 Db	541 GCTGCCACTCAGGCCCGGCCCCCCCCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATG	8 8

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RESULT 9
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                                                        SOFTWARE: PatentIn version 3.1
SEQ ID NO 1
LENGTH: 4015
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Application US/10105963
Publication No. US20030068818A1
GENERAL INFORMATION:
                                                                                                                        APPLICANT: Geron Corporation
APPLICANT: Denning, Chris
APPLICANT: Clark, A. John
APPLICANT: Schiff, J. Michael
APPLICANT: Schiff, J. Michael
TITLE OF INVENTION: Animal Tissue with Carbohydrate Antigens Compatible for Human
TITLE OF INVENTION: Recombination and a Carbohydrate Determinant Selection System
TITLE OF INVENTION: Recombination
FILE REFERENCE: 731/002
CURRENT APPLICATION NUMBER: US/10/105,963
CURRENT FILING DATE: 2002-03-21
PRIOR APPLICATION UNMBER: US 60/277,811
PRIOR FILING DATE: 2001-03-21
                            FEATURE:
                                   ORGANISM: Homo sapiens
         NAME/KEY: CDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/10044692 Publication No. US20030096344A1 GENERAL INFORMATION:
                NAME: Apple, Randolph T.
REGISTRATION NUMBER: 36,429
REFERENCE/DOCKET NUMBER: 015389-002600US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPHONE: (415) 576-0200
TELEPHONE: (415) 576-0300
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 4015 base pairs
                                                                                                                                                                                                                                                  Lingner, Joachim
Nakamura, Toru
Chapman, Karen B.
Morin, Gregg B.
Harley, Calvin
Andrews, William H. ELLOMERASE CATALYTIC SUBUNIT: DIAGNOSTIC AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
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ADDRESSEE: Townsend and Townsend and Crew LLP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3361 AACCCGGCACTGCCCCTCAGACTTCAAGACCATCCTGGACTGATGGCCACCC 3411
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/10/044,692 FILING DATE: 11-Jan-2002 CLASSIFICATION: <Unknown>
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STATE: California
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TYPE: nucleic acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
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                                                                     GGCAGGACGCGTGGACCGAGTGACCGTGGTTTTCTGTGTGGTGTCACCTGCCAGACCCGCC 840
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OTHER INFORMATION: /product= "hTRT"
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transcriptase (hTRT) catalytic protein
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Pred. No. 0;
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921 GTGGGAGCCAGAACGTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAG 1	B61 AGACTOCGCTTCATCCCCAAGCCTGACGGGCTGCGGCCGATTGTGAACATGGACTACGTC 192 	01 GAGCTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCGGCC	1 GTCTGGAGCAAGTTGCAAAGCATTGGAATCAGACAGCACTTGAAGAGGGTGCAGCTGCGG 180	TACCGGAAGAGT TACCGGAAGAGT		3GGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAG	501 CATGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGGGGACTGCGCTTGG	1441 TCCAGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAG 1500	1 CAGGTGTACGGCTTCGTGCGGGCCTGCCTGGGCTGGTGCCCCCAGGCCTCTGGGGC	1321 GAGGAGGACACAGACCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCAGCAGCAGCCCCTGG 1380	1261 ACCCCAGCAGCCGGTGTCTGTGCCCGGGAGAAAGCCCCAGGGCTCTGTGGCGGGCCCCCAG 1320	1201 CACGCGCAGTGCCCCTTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGGAGCTGCGGTC 1260	1141 CCCCGCCTGCCCCAGCGCTACTGGCAAATGCGGCCCCTGTTTCTGGAGCTGCTTGGGAAC 1200	1081 CTCGTGGAGACCATCTTTCTGGGTTCCAGGCCCTGGATGCCAGGGACTCCCCCGCAGGTTG 1140	1021 CAGCTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCGGAGG 1080	961 CCTTGTCCCCCGGTGTACGCCCGAGACCAAGCACTTCCTCTACTCCTCAAGCGACAAGAAG 1020	901 GGCCGCAGCACCACGCGGGGCCCCCCATCCACATCGGGGGCCACCACGTCCCTTGGGACACG 960	841 GAAGAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGCACGCGCCACTCCCACCCA
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3001 AACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTC 3060	2941 CTGAAGTGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACC 3000	2881 TTCARCCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGG 2940	2821 CTGGAGGTGCAGAGCGACTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACC 2880	2761 GTTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGGTGGATACCCGGACC 2820		2641 GCGAAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGAGAAC 2700	2581 GACGGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCAC 2640	2521 CTGCTCTGCAGCCTGTGCTACGGCGACATGGAGAACAAGCTGTTTGCGGGGGATTCGGCGG 2580	ATCAGGGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACG	2401 GAGGCCAGCAGTGGCCTCTTCGACGTTCTACGCTTCATGTGCCACCACGCCGTGCGC 2460	341 CTCCAGGAACCACCCCCTGAGGGATGCCGTCGTCATCGAGCAGAGCTCCTCCCGAAT 			ATCCCCCAGGACAGGCTCACGGAGGTCATCGCCAGCATCATCAAACCCCCAGAACACGTAC	CAGGACCUGCUGCUGAGUTGIACITI'GI'CAAGGTIGGAIGTIGACGGGGGGGTACGACACC	041 GTGCTGGGCCTGGACGATATCCACAGGGCCTGGGGACCTTCGTGCTGCGTGTGCGGGCCCTGGGGACGATATCCACAGGGCCTGGGGACCACCTTCGTGCTGCTGCTGCGGGCCCCGGGGACGATATCCACAGGGCCTGGGGACCACCTTCGTGCTGCTGTGCGGCCCCGGCCCCCGGACGATATCCACAGGGCCTGGCGACCCTTCGTGCTGCTGCTGCGGCCCCGGCCCCCGGACGATATCCACAGGGCCTGGCGACCTTCGTGCTGCTGCTGCTGCGGCCCCCGGCCCCGGCACCTTCGACGGCACCTTCGACGGACCCTTCGACGACGACCACAGGACCAGACAGA	981 GEACTETICAGGTGCTCAACTACGAGCGGGCGGCGCCCCCGGGCCTCCTGGGGGGCCTCT 983 GCACTGTTCAGCGTGCTCAACTACGAGCGGGCGGGCGGCCCCCGGGCTCCTGGGCGCCTCT 033 GCACTGTTCAGCGTGCTCAACTACGAGCGGGGCGGCGGCCCCCGGGCTCTGGGCGCTCT	973 GTGGGAGCCAGAACGTTCCGCCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAG

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                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
                        FILING DATE: 01-OCT-1996 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/912,951
FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: HUMAN TELOMERASE CATALYTIC SUBUNIT: THERAPEUTIC METHODS
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                                                           APPLICATION NUMBER: US 08/844,419
FILING DATE: 18-APR-1997
APPLICATION NUMBER: US 08/724,643
                                                                                                                  FILING DATE: 09-MAY-1997
APPLICATION NUMBER: US 08/851/843
FILING DATE: 06-MAY-1997
APPLICATION NUMBER: US 08/846,017
FILING DATE: 25-APR-1997
                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/10/044,539 FILING DATE: 11-Jan-2002 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STATE: California
COUNTRY: United States of America
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        NAME: Apple,
                                                                                                                                                                                              APPLICATION NUMBER: US 08/854,050 FILING DATE: 09-MAY-1997
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Nakamura, Toru
Chapman, Karen B.
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Harley, Calvin
Andrews, William H.
  Randolph T.
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REFERENCE/DOCKET NUMBER: 015389-002600US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEPAX: (415) 576-0300
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Match 100.0%; Local Similarity 100.0%;
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                                    GGTGCGAGGAGGCGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCCAGG 720
GGTGCGAGGAGGCGCGGGGCAGTGCCAAGCCGAAGTCTGCCGTTGCCCAAGAGGCCCCAGG
                                                                                                                GAACGGCCTGGAACCATAGCGTCAGGGAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCG
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                                                                                                                                                       GCTGCCACTCAGGCCCGGCCCCGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGC
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LOCATION: 56..3454
OTHER INFORMATION: /product= "hTRT"
/note= "human telomerase reverse
                                                                                                                                                                                                                                                                                                               CTGCTGCGCCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTT
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STRANDEDNESS: single
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1621 ATCCTGGCCAAGTTCCTGCACT 1673 ATCCTGGCCAAGTTCCTGCACT 1681 TTCTTTTATGTCACGGAGACCA 1	1441 TCCAGGCACAACGAACGCCGCT 1493 TCCAGGCAACGAACGAACGACGACGAGCCGCC 1501 CATGCCAAGCTCTCGCTGCAGC	1261 ACCCCAGCACCCGGTGTCTTTGCCCGGGAGAACCCC	1081 CTCGTGGAGACCATCTTCTGGGTTCCAGGC	GGCCGCCAGCA GGCCGCCAGCA GGCCGCCAGCA GGCTTGTCCCCC GCTTGTCCCCC GCTTGTCCGCC CAGCTGCGGCC CAGCTGCGGCC CAGCTGCGGCC	721 CUTO-CUTANCC CHANGE 773 CGTGGCGCTGCCCCTGAGCCGAAGCC 781 GGCAGGACGCGTGGACCGAGTGACCC [
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CCCTGTAGAAGACGAC	GACATGAGAACAACCATGAACAACCATGATTCTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGT	GGACATGGAGAAAAAAAGGG			GCAGCATCGGGAAGCCZ CTGACGGCATCGGGCGCGCGCGCGCGCGGCGGCGGCGGCGGCGGCGGCG

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Query Match 99.9%; Score 3407.8; DB 15; Length 4027; Best Local Similarity 99.9%; Pred. No. 0; Matches 3409; Conservative 0; Mismatches 2; Indels 0; Gaps 0; 1 GCGATGCCGCGCGCTCCCCGCTGCCGAGCCTTCCCTGCTGCGAGCCACTACCGC 60	PRIOR FILING DATE: 00/365/129 PRIOR FILING DATE: 2002-03-11 NUMBER OF SEQ ID NOS: 5 SOFTMARE: Patentin version 3.0 UEQ ID NO 1 LENGTH: 4027 TYPE: DNA ORGANISM: ARTIFICIAL FEATURE: PRATURE: OTHER INFORMATION: Nucleotide sequence encoding telomerase reverse transcriptase Db 10-385-882-1	APPLICANT: FOSTER, Douglas PAPPLICANTO O'GRADY, Scott APPLICANT: FOSTER, DOUGLAS PAPPLICANT: O'GRADY, Scott APPLICANT: FOSTER, DOUGLAS PAPPLICANT: FOSTER, DOUGLAS PAPPLICANT: FOSTER, DOUGLAS PAPPLICANT: FOSTER, DOUGLAS PAPPLICANT: O'GRADY, Scott APPLICANT: O'GRADY, Scott APPLICANT: O'GRADY, Scott APPLICANT: O'GRADY, Scott APPLICANT: O'GRADY, Scott DD	ი—ი ი <u>—</u>		DECTOCOCCTACAGCOTGTTTCTGGATTTTCCAGGTGAACAGCCTCCAGACGGTGTGCACC 3000
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Sequence 1, Application US/10205629
Publication No. US20030049236A1
GENERAL INFORMATION:
APPLICANT: Kassem, Moustapha
APPLICANT: Battan, Suresh
APPLICANT: Rattan, Suresh
ITILE OF INVENTION: Immortalized Stem Cells
FILE REFERENCE: 006148.00002
CURRENT APPLICATION NUMBER: US/10/205,629
CURRENT FILING DATE: 2002-07-26
PRIOR APPLICATION NUMBER: 60/315939
PRIOR APPLICATION NUMBER: 60/315939
PRIOR FILING DATE: 2001-08-29
PRIOR FILING DATE: 2001-08-29
PRIOR FILING DATE: 2001-08-29
PRIOR FILING DATE: 2001-07-27
NUMBER OF SEQ ID NOS: 1
SOFTWARE: FastSEQ for Windows Version 4.0
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                                                                                             TTCAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCC
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Sequence 1, Application US/10105616
Publication No. US20030175967A1
GENERAL INFORMATION:
APPLICANT: Geron Corporation
APPLICANT: Clark, A. J.
APPLICANT: Denning, Chris
APPLICANT: Cui, Wei
APPLICANT: Zhao, Debbiao
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US-10-105-616-1
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                                                                                                                                                        SOFTWARE: PatentIn version 3.1 SEQ ID NO 1
                                                                                                                                                                                              APPLICANT: Zhao, Debbiao
TITLE OF INVENTION: Vectors for Telomerizing Nuclear Donor Cells and Improving the E
TITLE OF INVENTION: of Nuclear Transfer
FILE REFERENCE: 732/002
CURRENT APPLICATION NUMBER: US/10/105,616
CURRENT FILING DATE: 2003-01-31
PRIOR APPLICATION NUMBER: US Provissional Application 60/277,749
PRIOR FILING DATE: 2001-03-21
NUMBER OF SEQ ID NOS: 33
                                                       TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
                   OTHER INFORMATION: Artificial construct comprising human TERT, myeloproliferative OTHER INFORMATION: rcoma virus (MPSV) promoter, and vector components
                                                                                                                                    LENGTH:
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                       Matches 3400;
                                  Local Similarity
                       Conservative
                                99.6%;
                    ; Score 3397.6; ; Pred. No. 0; 0; Mismatches
                                            DB 14; Length 13766;
                      4; Indels
                       0; Gaps
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	D Q	962 CTTGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGC 1021 	음 성
	B &	902 GCCGCCAGCACCACGGGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGC 961	유영
	p &		음 성
	p Q	782 GCAGGACGCGTGGACCGAGTGACCGTGGTTTCTGTGTGGTGTCACCTGCCAGACCCGCCG 841	음 성
	Db Qy	722 GTGGCGCTGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGG 781	유 성
	Db dd	662 GTGCGAGGAGGGCGGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCCAAGAGGGCCCAAGGC 721	유 성
	ob Qy	602 AACGGGCCTGGAACCATAGCGTCAGGAAGGCCGGGGTCCCCCTGGGCCTGCCAGCCCCCG 661	B 8
	D Q	542 CTGCCACTCAGGCCCGGCCACACGCTAGTGGACCCCGAAGGCGTCTGGGATGCG 601	β δ
	B 8	482 TGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGGCCGCCGCTGTACCAGCTCGGCG 541	망양
) B 29	422 TGCTGCGCCGCGTGGGCGACGACGTGCTGGTTCACCTGCTGGCACGCTGCGCGCTCTTTG 481	음 성
) B 8	362 GCAGCTACCTGCCCAACACGGTGACCGACGCACTGCGGGGGAGCGGGGGGTGGGGGGCTGC 421	B 8
) B 8	302 GCTTCGCGCTGGACGGGGCCCGCGGGGGGCCCCCCGAGGCCTTCACCACCAGCGTGC 361	유
	} B &	242 TGGTGGCCCGAGTGCTGCAGAGGCTGTGCGAGCGCGCGCG	B 8
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APPLICANT: Yamada, Yoji

TITLE OF INVENTION: THE CELL HAVING THE POTENTIALITY OF DIFFERENTIATION INTO CARDION
FILE REFERENCE: 00766.00043

CURRENT APPLICATION NUMBER: US/09/749,728B

CURRENT FILING DATE: 2001-09-17

PRIOR APPLICATION NUMBER: H11-372826

PRIOR FILING DATE: 1999-12-28

PRIOR FILING DATE: 2000-02-28

PRIOR APPLICATION NUMBER: PCT-JF00-01148

PRIOR FILING DATE: 2000-11-02

NUMBER OF SEQ ID NOS: 80

SOPTMARE: Patentin Ver:2.0

SEQ ID NOS: 80
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APPLICANT: Umezawa, Akihiro
APPLICANT: Hata, Jun-Ichi
APPLICANT: Fukuda, Keiichi
APPLICANT: Ogawa, Satoshi
APPLICANT: Sakurada, Kazuhir
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Best Local Similarity
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Patent No. US20020142457A1
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Sakurada, Kazuhiro
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2584 GGGCTGCTCCTGCGTTTGGTGGATGATTTCTTGTTGGTGACACCTCACCTCACCCCACGCG 2643			
2524 CTCTGCAGCCTGTGCTACGGCGACATGGAGAAAGCTGTTTGCGGGGATTCGGCGGAC 2583 	503 Db	1444 AGGCACAACGAACGCCGCTTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGGAAGCAT 1:	0 ~
61 AGGGCAAGTCCTACGTCCAGTGCCAGGGGATCCCGCAGGGCTCCATCCTCTCCACGCTG	443 Db	384 GTGTACGGCTTCGTGCGGGCCTGCCTGCGCCGCCGGCTGGTGCCCCAGGCCTCTGGGGCTCC 1	0 4
404 GCCAGCAGIGGCCTICTICGACGICTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATC 401 GCCAGCAGTGGCCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATC 402 GCCAGCAGTGGCCTCTTCGACGTCTTCCTACGCTTCATGTGCCACCACGCCGTGCGCATC	383 280 280 287	1324 GAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCAGCAGCCCCTGGCAG 1:	0 <
CAGGAGACCAGCCCGCTGAGGATGCGGTCATCGAGCAGAGAGTCCTCCCCTGAATGAG	323 Oy 320 Db	1264 CCAGCAGCCGGTGTCTGTGCCCGGGAGAAGCCCCCAGGGCTCTGTGGCGGCCCCCGAGGAG 1:	o ~
284 AGCAGGICTGTACCTTGACAGACCTCCAGCCGTACATGGGACAGTTCGTGGCTCACCTG	263 Db	1204 GCGCAGTGCCCCTACGGGGTGCTCCTCAAGACGCACTGCCCGCTGCGAGCTGCCGGTCACC 1:	0 4
224 GTGGGTCGGTATGCGTGGTCCAGAAGGCCGCCATGGGGACGTCCGCAAGGCCTTCAAG 	203 Db	CAC 1	в 4
0-0	40	CGCAGGTTGCCC 1	σ <
04 GACCIGICGICTIGAGCTGTACTTTGTCAAGGTIGGATGTGAGGGGGGGGGTACGACACCATC 01 GACCIGICTIGAGCTGTACTTTGTCAAGGTIGGATGTGACGGGGGGGTACGACACCATC 01 GACCIGICGCTGAGCTGTACTTTGTCAAGGTIGGATGTGACGGGGGTACGACACCATC	083 080	1024 CTGCGGCCCTCCTTCCTACTCAGCTCTCTGAGGCCCAGCCTGACTGGCGCTCCGGAGGCTC 10	0 4
44 CTGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTTCGTGCTGCTGCTGCGGGCCCAG	023 Qy	964 TGTCCCCCGGTGTACGCCGAGACCAAGCACTTCCTCTACTCCTCAGGCGACAAGGAGCAG 10	0 <
4 4	63 Db	904 CGCCAGCACGACGGGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGGACACGCCT 90	0 <
924 GGAGCCAGAACGTTCCGCAGAGAAAAGAGGCCGAGCGTCTCACCTCGAGGGTGAAGGCA	000 ada	844 GAAGCCACCTCTTTGGAGGGTGCGCTCTCTGGGACGCCACTCCCACCCCATCCGTGGGC 9	0 4
4 CTCCGCTTCATCCCCAAGCCTGACGGCTGCGGCCGATTGTGAACATGGACTACGTCGTG 	43 Db	CCCGAA 8	σ κ
4 CTGTCGGAAGCAGAGGTCAGGCAGCATCGGGAAGCCAGGCCCGCCC	83 Db	724 GGCGCTGCCCCTGAGCCGGAGCGGACGCCCGTTGGGCAGGGGTCCTGGGCCCACCCGGGC 7.	9 4
	23 Oy 20 Db	CAAGAGGCCCAGGCGT 7	ט א
	60	CCCTGGGCCTGCCAGCCCCGGGT 6	ρ Κ
1624 CTGGCCAAGTTCCTGCACTGGCTGATGAGTGTGTACGTCGAGCTGCTCAGGTCTTTC 1683		44 GCCACTCAGGCCCGGCCCCCCCCCACACGCTAGTGGACCCCGGAAGGCGTCTGGGATGCGAA 6	р %
1564 CGCAGGAGCCCAGGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATC 1623		84 CIGGIGGCICCCAGCIGCGCCTACCAGGIGTGCGGCGCCGCCGCTGTACCAGCTCGGCGCT 5	ъ ч
4 4	.83 Db	424 CTGCGCCGCGTGGGCACGACGTGCTGGTTCACCTGCTGGCACGCTGCTGTGTG 4	ъ ч

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941 AAGCTGACTCGACACCGTGTCACCTACGTGCCACTCCTGGGGTCACTCAGGACAGCCCAG 3300	ეს 32	п
44	Qу 32	0
1181 GCCGCCGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTC 3240	Db31	
184 GCCGCCGGCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCAAGCATTCCTGCTC 3243	0у 31	0
121 TCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGGC 3180	Db 31	н
124 TCCCTCTGCTACTCCATCCTGAAAGCCCAAGAACGCAGGGATGTCGCTGGGGGCCAAGGGC 31	Qу 31	0
061 TITCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCC 31	Db 30	ы
64 TTTCATCAGCAAGTTTGGAAGAACCCCACATTTTTCCTGCGCGTCATCTCTGACACGGCC 312	Qy 30	0
001 ATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCA 30	Db 30	H
04 ATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTTCACGCATGTGTGCTGCAGCTCCCA 306	Qу 30	n
41 AAGTGTCACAGCCTGTTTCTGGATTTGCAGGTGAACAGCCTCCAGACGGTGTGCACCAAC 3000	29 מם	п
44	Qу 29	0
181 AACCGCGGCTTCAAGGCTGGGAGGAACATGCGTCGCAAACTCTTTGGGGTCTTGCGGCTG 29	Db 28	н
4.	Qу 28	0
821 GAGGTGCAGAGCTACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTTC 28	Db 28	н
4.	Qу 282	0
61 CAGATGCCGGCCCACGGCCTATTCCCCTGGTGCGGCCTGCTGCTGGATACCCGGACCCTG 2820	Db 27	н
4	Qу 27	Ω
01	Db 27	
04 CGGAAGACAGTGGTGAACTTCCCTGTAGAAGACGAGGCCCTGGGTGGCACGCTTTTGTT 27	Qу 27	n
641 AAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGCGTGGAACTTG 270	Db 26	н
644 AAAACCTTCCTCAGGACCCTGGTCCGAGGTGTCCCTGAGTATGGCTGGGTGGTGAACTTG 27	Qy . 26	0
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